

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

ANTHONY WILSON and KIMBERLY)
WILSON, the parents of)
Martez Wilson, and the)
ESTATE OF MARTEZ WILSON,)
)
Plaintiff,)
) CIVIL ACTION FILE
vs.)
) NO. 1:17-CV-00634-ELR
CITY OF DOUGLASVILLE, GA,)
OFFICER COYLEE DANLEY, in)
his individual capacity,)
OFFICER ANDREW SMITH, in)
his individual capacity,)
SGT. CALDWELL, in his)
individual capacity, EMT)
SEAN FLACK, in his individual)
capacity, PARAMEDIC BRIAN)
PORTERFIELD, in his)
individual capacity,)
)
Defendants.)

DEPOSITION OF KRIS LEE SPERRY, M.D.

March 7, 2018

10:09 a.m.

At the offices of
Freeman, Mathis & Gary
100 Galleria Parkway, Suite 1600
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DISCLOSURE
STATE OF GEORGIA Deposition of
KRIS LEE SPERRY, M.D.
COUNTY OF FULTON

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Debra J. Puckett, CCR# B1188 March 7, 2018

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KRIS LEE SPERRY, M.D.,
having been duly sworn, was examined and deposed as
follows:

CROSS-EXAMINATION

BY MR. CHOY:

Q Sir, would you state your full name for
the record.

A My name is Kris Lee Sperry. My first
name is spelled with a K. My last name is
S-p-e-r-r-y.

Q All right. We're here to take your
discovery deposition, Dr. Sperry. I'm sure
you've given depositions on plenty of occasions,
correct?

A Yes.

Q All right. And as I understand it,
you're here pursuant to agreement of counsel and
a subpoena?

A Yes.

MR. CHOY: And we've asked for certain
documents to be produced at your deposition and
as I recall, Brian, you just gave us a list of
materials that he viewed?

MR. SPEARS: There's a list in his

1 report and whatever else he has according to
2 Dr. Sperry, hold me he was just going to bring
3 his file, so.

4 Q (By Mr. Choy) Have you brought your file
5 or haven't you brought your file or doesn't it
6 matter?

7 A Well, yes, of course, I always do.

8 Q Okay. Is it like in an electronic --

9 A No, these are some videos, DVD videos.
10 And everything else is here.

11 Q My only point was that you do reference
12 your report, your Rule 26 Report and you listed
13 the materials that you reviewed in this file,
14 correct?

15 A Yes.

16 Q Are there any additional materials that
17 you have brought with you today that were not listed
18 in your report?

19 A The only other thing that I -- that's
20 not listed that I brought would be the re-autopsy
21 or the second autopsy that was done on the body of
22 Mr. Wilson -- excuse me -- yes, at, that was over
23 at Newberry Pathology Associates. I brought that
24 report with me. I did not have that report or
25 actually know it had been generated at the time I

1 wrote my report.

2 Q I see. And having the benefit of that
3 report now, does that change any of your opinions in
4 this case?

5 A No.

6 Q All right. And obviously we will talk a
7 little bit more about that.

8 Well, this is the first time, if I can
9 recall that I deposed you Dr. Sperry, so I do want
10 to go over your background.

11 Let's go ahead and mark as exhibit one to
12 your deposition your CV.

13 (Documents were marked for
14 identification as Defendants'
15 Exhibit No. 1).

16 Q (By Mr. Choy) And I'm handing you what has
17 been marked as exhibit one to your deposition and if
18 you can take a look at that and identify that for
19 the record.

20 A Yes, this is a copy of my curriculum vitae
21 and it is the most up-to-date version.

22 Q Let's just go through your CV, sir. How
23 old are you?

24 A I'm 63.

25 Q And as noted here you were born in Topeka

1 Kansas; is that correct?

2 A Yes.

3 Q Is that where you were raised?

4 A No, I was raised in -- well, lived in
5 Topeka for I know a few years. And then I was
6 raised really in Lawrence, Kansas.

7 Q So in the state of Kansas?

8 A Yes.

9 Q And when did you first come to Georgia?

10 A In the end of December of 1989.

11 Q And that was for a job?

12 A Yes.

13 Q All right. We'll get to that.

14 And you currently live in Peachtree City?

15 A Yes.

16 Q Are you married?

17 A Yes.

18 Q Who is your wife?

19 A Janice Blair Sperry.

20 Q Do you have any children over the age of
21 16?

22 A Yes, four of them.

23 Q Do any of them live in the metropolitan
24 area?

25 A Two do, yes.

1 Q And what are their names?

2 A The daughter is named Bekkah, B-e-k-k-a-h
3 Sperry. And son is Benjamin Sperry.

4 Q And the other two, are they licensed in
5 Georgia, driver's license wise? Or they live
6 outside of the state?

7 A Oh, they live -- one daughter lives in
8 California and the other in Florida.

9 Q I see. Other than your wife and the two
10 children you identified that live in the
11 metropolitan area, do you have any other relatives
12 that live in the metropolitan area?

13 A The only other one would be an ex-wife,
14 Laurie Sperry, who lives in Stone Mountain.

15 Q I see.

16 A That's all.

17 Q And when did you get a divorce?

18 A That would have been 2003.

19 Q And what county?

20 A In Gwinnett.

21 Q And how long have you been living in
22 Peachtree City?

23 A I think five years, thereabouts.

24 Q And I note in your CV under current
25 position you note that you are the chief medical

1 examiner of the State of Georgia and you retired in
2 November of 2015; is that correct?

3 A Yes.

4 Q And then so certainly that is not your
5 current position?

6 A Oh, no, since I'm retired from that.

7 Q Right. I just wanted clarification on
8 that.

9 A Oh, sure.

10 Q And then is your current position a
11 consultant in forensic medicine and pathology?

12 A Yes. If you can call it a position, yeah.

13 Q Are you self-employed?

14 A Yes.

15 Q Do you operate under a legal entity at
16 all?

17 A Yes.

18 Q And what is that legal entity.

19 A Sperry Forensic Pathology Consultants,
20 Incorporated.

21 Q And how long have you operated under that
22 company?

23 A I've had that actually 21 years.

24 Q Are you an employee of that company?

25 A Yes.

1 Q Are you also an officer of that company?

2 A Yes.

3 Q What is your title as an employee?

4 A I'm the -- well, as an employee -- I don't
5 know, it gets into things that I don't know all the
6 terminology of, but I'm the president, if you will,
7 if that's what you're asking.

8 Q Just as legal speak president would be,
9 make you an officer of the corporation and then you
10 also identified yourself as an employee so that's
11 why I asked the question if you have a title as an
12 employee.

13 A Well, I know that the corporation pays me
14 but our accountant really deals with all of that.

15 Q And again my question is do you go by a
16 title other than president?

17 A Not that I know of.

18 Q Okay. Does the company have any other
19 employees?

20 A Just my wife, Blair.

21 Q And what is her position?

22 A She's the secretary and the treasurer.
23 Most importantly the treasurer.

24 Q So she controls the money?

25 A Correct.

1 Q Is that what you're telling us?

2 A That's exactly what I'm telling you.

3 Q And then she draws a salary as well?

4 A She does, yes.

5 Q Any other employees of the company?

6 A No, sir.

7 Q All right. You mentioned an accountant.

8 Who is your accountant?

9 A Her name is Britney Montrois.

10 M-o-n-t-r-o-i-s.

11 Q And where is Ms. Montrois?

12 A She's in Stockbridge.

13 Q Going through your education you graduated
14 from high school in Lawrence, Kansas; and for
15 college you attended Kansas State College of
16 Pittsburg; is that correct?

17 A Yes.

18 Q And that's in Pittsburg, Kansas?

19 A Yes.

20 Q Just to avoid any confusion.

21 A With no, no "H".

22 Q I see now.

23 A It's the city by the pits. There's strip
24 mining that's been going on there about 120 years
25 ago and they're still open pits everywhere that you

1 can go skinny dipping in.

2 Q And then you graduated in 1975, then went
3 to medical school at the University of Kansas School
4 of Medicine in Kansas City, Kansas; is that correct?

5 A Yes.

6 Q And you obtained an M.D. degree in 1978.

7 A Yes.

8 Q So you went directly from undergrad to
9 medical school, correct?

10 A Six-week interval.

11 Q Okay. And that's all for education.

12 And then your next heading in your CV is
13 post-graduate training; is that correct?

14 A Yes.

15 Q And you list here for Flexible Internship.
16 What does that mean?

17 A That means that I spent a year in -- it's
18 really -- there's sort of an oldstyle also called
19 rotating internship where I spent 12 months rotating
20 through different specialties: Emergency room
21 medicine, internal medicine, radiology, dermatology,
22 obstetrics and gynecology, surgery and pathology.
23 Just for usually anywhere from one to three months
24 depending on which ones they were. So that's enough
25 to, you know, get me -- well, allow me to obtain a

1 medical license, you know, somebody -- you have to
2 have at least one year of post-graduate training in
3 something in order to be licensable in the United
4 States.

5 Q So back then, and this is from July 1978
6 to June of 1979, you essentially did a rotation in
7 these different departments of the hospital?

8 A Yes.

9 Q Okay. And that was at Allentown Hospital
10 in Pennsylvania, correct?

11 A Yes.

12 Q And you would spend any time from one to
13 three months in each of these departments, correct?

14 A Yes. Most of the time the larger block
15 was, the three months that was internal medicine and
16 basically hospital care of internal medicine
17 patients. And then the other things -- I think I
18 spent two months delivering babies, I needed that
19 experience. Otherwise the other things were one-
20 month increments.

21 Q I see. And during this approximately
22 one-year period at Allentown Hospital, did you have
23 an opportunity to treat any patients with sickle
24 disease or sickle cell trait?

25 A I don't remember any with sickle cell

1 trait offhand that I can recall sitting here today.
2 I know there some patients that -- I mean I recall
3 seeing patients with full sickle cell disease who
4 came in usually through the emergency room or that I
5 took care of on the hospital wards who had -- were
6 having sickle cell crises.

7 Q Okay. Just for purposes of my education,
8 how would you define sickle cell trait?

9 A Sickle cell trait is -- I'm trying to find
10 the best way to describe it succinctly. Well, it's
11 essentially where a person's hemoglobin is a mixture
12 of the normal hemoglobin A which is what I would say
13 is the -- well, the majority of people who have
14 normal hemoglobin would have. It's a mixture of two
15 Alpha chains and two Beta chains in the hemoglobin
16 molecule.

17 And there is a mutation which hemoglobin S
18 that is -- well, it's the one, it's the mutation
19 that causes either sickle cell trait or sickle cell
20 disease. And with sickle cell trait there's a
21 mixture of approximately equal amounts of hemoglobin
22 A which is the normal hemoglobin that, you know, the
23 normal -- people with normal blood fetal types have
24 whereas the hemoglobin S is associated with
25 sickling.

1 So sickle cell trait is about an equal
2 mixture of hemoglobin A and hemoglobin S with very
3 small amounts of fetal hemoglobin, usually less than
4 5 percent and sometimes a few other small amounts.
5 Whereas full-blown sickle cell disease all the
6 hemoglobin is hemoglobin S or the sickle, what's
7 associated with sickling.

8 Q I see.

9 A If that's makes sense.

10 Q Yes. So is it possible for an individual
11 with sickle cell trait at some point in their life
12 to have full-blown sickle cell disease?

13 A No. In full-blown sickle cell disease
14 it's required to have, you know, almost all the
15 hemoglobin be the hemoglobin S.

16 Q Okay.

17 A And there's, there's different definitions
18 depending on other factors, other different types of
19 genetic-related blood diseases but generally
20 hemoglobin, the -- well, sickle cell trait, one
21 definition is that the hemoglobin S percentage is
22 less than 45 percent because sometimes it can be
23 more than 45 percent. But then there are other
24 hemoglobin abnormalities that will cause a person to
25 manifest the sickle cell disease syndrome without

1 the majority of the hemoglobin being hemoglobin S.

2 So any way that's basically it.

3 So anyhow if you have sickle cell trait
4 then you will not -- the patients will not develop
5 full-blown sickle cell disease and have the typical
6 sickle cell crises.

7 Q Okay. So if an individual is born with
8 more than 45 percent of the S mutated hemoglobin,
9 then they may be considered to have sickle cell
10 disease.

11 A They may.

12 Q Okay.

13 A And usually those patients -- if it's less
14 than a hundred percent, say just arbitrarily 50
15 percent hemoglobin S, if a person -- if a patient
16 like that is going to manifest really the sickle
17 cell disease, you know, its full-blown fashion,
18 usually there is another genetic abnormality like a
19 Beta thalassemia, a genetic abnormality in the Beta
20 chain that is separate from the spot mutation that
21 causes sickling. So it gets -- there's something
22 like a 1100, at least known and recognized different
23 genetic variants of -- that can result in sickle
24 cell trait or sickle cell disease.

25 Q Okay. How is one diagnosed with sickle

1 cell trait?

2 A Usually the diagnosis is made by
3 hemoglobin electrophoresis which is separating the
4 hemoglobin molecules chemically to look at the
5 percentage. Well, in fact will identify the
6 presence of hemoglobin S and hemoglobin A and
7 perhaps the fetal hemoglobin as well, and then
8 ascribe percentages to each of those quantities.

9 Q And that's conducted in a lab?

10 A Yes, yes.

11 Q Are there any other ways to diagnose an
12 individual with sickle cell trait?

13 A Well, there some rapid tests, one is
14 called the Sickledex but they have a high degree of
15 unreliability of false positives and false negatives
16 that they're just not terribly reliable. They're
17 used sometimes for screening tools but the problem
18 is, because of their unreliability, you can't really
19 trust the results. Usually the diagnosis -- well,
20 today actually almost all African -- well, babies of
21 African-American decent in the United States have
22 testing done at birth to identify sickle cell trait
23 or sickle cell disease so that's, you know, most of
24 them are found, you know, today. Otherwise -- and
25 that would include pretty much everyone of --

1 sitting here today, say high school age and younger.

2 Older individuals unless there's a reason
3 to do the testing, it's rarely diagnosed unless
4 there is a, like I said, a reason to do the testing
5 on someone or a suspicion that someone may have one
6 of the variants of sickling.

7 Q Okay. And again in terms of the testing
8 on newborns, that's done by drawing blood and doing
9 the lab work, correct?

10 A Exactly, yes.

11 Q Is there a method of diagnosing an
12 individual with sickle cell trait just by doing a
13 physical examination?

14 A No.

15 Q Same question with respect to sickle cell
16 disease. You diagnose sickle cell disease by doing
17 the same lab work?

18 A Yes.

19 Q Okay. And if those lab results come back
20 depending on the ratio of this S mutated hemoglobin,
21 either you have the sickle cell disease or the
22 sickle cell trait?

23 A Yes, that's generally -- yes, that's
24 reasonable.

25 Q For an individual who has sickle cell

1 trait, are there any symptoms that would appear?

2 A Usually not. I mean most people with
3 sickle cell trait will go through their entire lives
4 and may never know it.

5 Q Okay. What about individuals with sickle
6 cell disease?

7 A Sickle cell disease is much more severe
8 because almost all the hemoglobin in most cases is
9 the S mutated variant and patients with sickle cell
10 disease usually are found in infancy or childhood
11 where they begin having problems. Usually pain
12 crises, whether there's a sickling crisis that
13 causes really -- well, infarction or hypoxic injury
14 to bones. And pain is, severe pain is usually the
15 first manifestation.

16 Q And in terms of the mechanism for causing
17 the pain, is it because of this S mutation, the cell
18 shape or red blood cells become sickled?

19 A Yes. The cells become sickle and there's
20 a lot of different things that can cause it.
21 Usually it's a decreased oxygen tension although
22 because the cells -- the hemoglobin is abnormal. It
23 affects the viscosity or the fluid dynamics of the
24 blood.

25 And if there's -- by affecting the fluid

1 dynamics, then the oxygen uptake ability of the
2 hemoglobin is affected which will cause the normal
3 round biconcave form of the red blood cells to shift
4 and they become sickled. They look like quarter
5 moons, really, and this increases the viscosity, the
6 thickness of the blood and causes sludging and then
7 impairs the blood flow and oxygen supply to organs
8 through the body and especially the bones. But
9 anything, any organ can and will be affected.

10 Q Because blood travels throughout the
11 entire body?

12 A Yeah, it should.

13 Q Right. You mentioned this term sickle
14 cell crisis. What is that?

15 A Well, sickle cell crisis is kind of a
16 broad encompassing term for any situation where
17 there is a tremendous amount of sickling alterations
18 of the red blood cells in a person's body who has
19 sickle cell disease and as result then the blood
20 becomes thick and sludges and it will not flow
21 through the blood vessels, especially the
22 microvasculature very well. And so as a consequence
23 the tissues and organs throughout the body are
24 starved for oxygen.

25 And so the crisis can present as I

1 mentioned earlier, severe bone pain is probably the
2 most common manifestation. But it can present with
3 confusion and disorientation. Sometimes heart
4 rhythm disturbances.

5 One -- actually one of the more -- one of
6 most common things is seeing -- although this rarely
7 causes a problem -- but people -- patients with
8 sickle cell crisis can, will have abdominal pain.
9 And the spleen actually shrinks. It essentially
10 auto-infarcts, if you will. It will shrink down to
11 a little small remnant as a consequence.

12 Q With respect to sickle cell crisis, is
13 that something only individuals with sickle cell
14 disease can suffer from or individuals with sickle
15 cell trait as well?

16 A Sometimes patients with sickle cell trait
17 can present with signs and symptoms that are
18 indistinguishable from a sickle cell crisis although
19 that, you know, it's -- there's, there's different
20 things that sickle cell trait will present as. But
21 pain especially -- well, pain in the abdomen, pain
22 in the kidneys actually is a fairly common way in
23 which someone with sickle cell trait may first
24 present.

25 Q So let me just be clear on this. So an

1 individual who has sickle cell trait, they
2 technically do not have a sickle cell crisis?

3 A Not -- sickle cell crisis, the term crisis
4 is pretty well reserved for patients with sickle
5 cell, true sickle cell disease.

6 Q I see. And so an individual with sickle
7 cell trait, if they're exhibiting signs that are
8 similar to sickle cell crisis, is there a medical
9 term for that?

10 A Other than -- the terminology is not
11 really good because crisis is reserved for patients
12 with true sickle cell disease. But as far as, it's
13 usually, you know, it's, say complications of sickle
14 cell trait or a sickle cell trait induced say, renal
15 papillary necrosis. Or, you know, abnormal
16 thrombosis, blood clots. So it's -- there's not a
17 specific name that I know of that is, you know,
18 reserved for the complications that arise from
19 sickle cell trait.

20 Q I see.

21 A It's really just more a given descriptive
22 terminology.

23 Q Okay. Are you aware of any particular
24 triggering events that can cause a crisis to occur
25 in somebody who has sickle cell disease or the

1 analog to that with respect to someone who has
2 sickle cell trait?

3 A Well, sickle cell disease, the triggering
4 mechanisms -- I mean many times there's nothing
5 that's really known other than that stressful
6 situations, patients even undergoing surgery and
7 anesthesia for that matter, that can trigger a
8 sickle cell crisis that can be related to even mild
9 amounts of dehydration and mild electrolyte
10 imbalances, if you will. High sodium that can
11 trigger a sickle cell crisis.

12 Altitude, patients with sickle cell
13 disease who say go to Denver, you know, if they have
14 a fairly rapid increase in the altitude, where
15 they're staying or living at -- excuse me -- then
16 that can result, you know, trigger a sickle cell
17 crisis. But many times there's really no triggering
18 event, a specific one that can be, you know,
19 identified.

20 Sickle cell trait is much harder just
21 because most patients with sickle cell trait will go
22 through their lives and never know they have it, or
23 at least never have any manifestations. But there
24 are certain things at least in the, you know,
25 occasions where there's -- well, it's less -- it's

1 less well understood, I guess I should say, with
2 sickle cell traits compared to sickle cell disease
3 as far as what may trigger an event that causes
4 sickling.

5 Q And when you say less well understood,
6 that's in terms of the research?

7 A Well, yes, as far as being able to predict
8 what may initiate an episode of sickling that causes
9 symptoms.

10 Q Would you consider yourself an expert with
11 respect to sickle cell trait?

12 A In a sense. I'm not a hematologist and so
13 it's not something that I, you know, routinely
14 diagnose or treat patients, you know, with sickle
15 cell trait. So I would wouldn't consider myself an
16 expert in, you know, clinical aspects, no.

17 Q Same question with respect to sickle cell
18 disease?

19 A Again no, I don't -- I do not treat
20 patients nor am I involved in their, in diagnosis of
21 recommending therapeutic procedures that should be
22 done. So, you know, I'm not a hematologist.

23 Q And what is a hematologist?

24 A A hematologist is a physician who is
25 specialized in internal medicine and then

1 subspecialized in diseases of the blood and bone
2 marrow and lymphatic system which is, really defines
3 hematology.

4 Q Okay. Now, within that specialty are
5 there individuals who would then specialize, in
6 particular, on sickle cell?

7 A There -- I know there are some. Sickle
8 cell disease is not, it's not rare and, you know, at
9 larger university centers, I mean I would say
10 probably at Emory there's -- would be one or more
11 hematologists who have a special interest in sickle
12 cell disease.

13 Usually patients -- well, there -- with
14 sickle cell disease especially if they have
15 complications, are treated at larger university
16 centers where there are even special clinics, say
17 just for sickle cell patients because it's not a
18 rare, a rare problem.

19 Q Are you aware of any individuals at Emory
20 who specialize in that area?

21 A I am not, no.

22 Q Okay. Going back to this post-graduate
23 training, my initial question was whether you
24 treated any individuals during that one-year period
25 with sickle cell disease or sickle cell trait and

1 you said you may have.

2 Do you have any specific recollection of
3 actually treating any individuals with either one of
4 those conditions?

5 A Not sickle cell trait that I can recall.
6 I mean sickle cell disease, I just can recall
7 occasional patients that would either come into the
8 emergency room or be admitted to the hospital and I
9 would be involved in their treatment and these are
10 patients with, you know, with sickle cell crises.

11 Q And back in this period from July 1978 to
12 June 1979, how many individuals do you specifically
13 recall treating with sickle cell disease?

14 A I don't know.

15 Q Okay.

16 A Probably less than half a dozen, probably.

17 Q And I think you mentioned you treated them
18 in the ER?

19 A Well, yeah. They are at least seen in the
20 emergency room and sometimes admitted to the
21 hospital and sometimes not.

22 Q And these are individuals who may have
23 been experiencing pain or some of the symptoms that
24 you had identified previously?

25 A Exactly.

1 Q And what is the treatment for that?

2 A Fluid administration and oxygen
3 administration, primarily; and also pain relief,
4 narcotic pain relief.

5 Q Anything else?

6 A That at least at the time was primarily
7 the primary treatment. That's about all that was
8 available, really. And on rare occasion blood
9 transfusions. It depends or whether they were
10 having hemolysis or destruction of the red blood
11 cells, abnormal sickle red blood cells. And if that
12 was true then they would have to have transfusions.

13 Q Did any of those patients, that less than
14 have a dozen die?

15 A Not that I recall.

16 Q Okay. Once they're admitted did you do
17 follow-up?

18 A I don't recall as an intern. I had -- I
19 was assigned to a number of clinic patients. We had
20 an outpatient clinic and I don't recall that any of
21 them followed up with me anyway.

22 Q Do you have any understanding at all with
23 respect to life expectancy of individuals with
24 sickle cell disease?

25 A It's reduced, it's reduced. Usually

1 somewhere -- for most individuals somewhere between
2 40 and 50 years of age is about the maximum.

3 Q What about individuals with sickle cell
4 trait?

5 A With sickle cell trait there's no
6 identifying reduction in life expectancy.

7 Q So going back to your CV, we learned that
8 you did this year of rotations in Pennsylvania and
9 then you list a resident in pathology at the
10 University of New Mexico School of Medicine from
11 July 1981 through June 1985; is that correct?

12 A Yes.

13 Q That chronologically speaking, what were
14 you doing from 1979 to 1981?

15 A That is, it would be on the second page
16 under military service.

17 Q I see that now.

18 A Yes.

19 Q So just going chronically, so you left
20 your internship in Pennsylvania and then joined the
21 Army?

22 A Well, it's the United States Public Health
23 Service.

24 Q Okay.

25 A It's actually one of the six recognized

1 uniformed military services, it's the second
2 smallest one population wise or personnel wise. But
3 I had signed up with the Public Health Service when
4 I was in medical school. The federal government had
5 money and I did not so we reached --

6 Q An agreement?

7 A An agreement, yes, sir.

8 Q Okay. And then you list here that you
9 were stationed at an Indian reservation?

10 A Yes, sir.

11 Q Okay. And that's from July 1979 to
12 June 1981?

13 A Yes.

14 Q This is the first I'm hearing about the
15 United States Public Health Service as a uniformed
16 branch. What is the smallest one, I'm just curious.

17 A It's the National Oceanic and Atmospheric
18 Administration, NOAA.

19 Q Okay.

20 A You know nobody knows that unless --

21 Q It's a good trivia question.

22 A Yes, well, yeah, it is. There's only
23 about maybe, at least for the Public Health Service
24 maybe 1500 commissioned officers. Virtually --
25 well, there's -- the majority are physicians, a few

1 dentists and then some nurses.

2 Q Okay. And so while you're at the Indian
3 reservation did you have an opportunity to treat any
4 individuals with sickle cell disease or sickle cell
5 trait?

6 A No.

7 Q And then from the Indian reservation you
8 took on this residency in pathology; is that
9 correct?

10 A Yes.

11 Q And what is pathology?

12 A Pathology is the study of human disease
13 and human injuries and all of its, you know,
14 hundreds of thousands, perhaps even millions of
15 manifestations these days.

16 Q And is this study of human disease any
17 particular disease?

18 A Everything.

19 Q Okay.

20 A It's -- pathologists and -- pathologists
21 are not, I would say, considered in the same line as
22 they were maybe 50 to 80 years ago but there was a
23 time when pathologists were considered to be the
24 doctor's doctors because pathology encompasses
25 males, females, everything sort of in between.

1 Unborn babies up to, you know, centenarians and
2 includes, you know, like I said, human disease and
3 human injury and trauma of all types.

4 Q Right. And how is it that you got into
5 this residency program in pathology?

6 A You mean why did I do it or how did I get
7 in?

8 Q Both.

9 A Well, I wanted to be a -- actually I'm a
10 forensic pathologist. I wanted to be a forensic
11 pathologist since I was 15. 7.

12 When I grew up in Kansas in Lawrence,
13 Kansas, my hometown, which is where the University
14 of Kansas is located. And when I was in high school
15 I used to ride my bicycle up to the university and
16 go through, walk through the -- they have a science
17 library and I just really walked through the stacks.

18 And they had these little things called
19 card catalogs that you could look at that -- I would
20 really just look for things that interested me and
21 if I'd find a book, then I would go to the card
22 catalog where they also have other similar titles or
23 subjects listed.

24 I found a couple of books on forensic
25 pathology and I probably checked them out and took

1 them home and at that point I was hooked. So I
2 decided -- I wanted to go into pathology actually
3 before I ever went to college.

4 Q You told us that you wanted to be a
5 forensic pathologist; is that correct?

6 A Yes.

7 Q And what is a forensic pathologist?

8 A A forensic pathology is a subspecialty of
9 pathology that deals specifically with the
10 investigation of sudden unexpected, undetermined,
11 questionable, violent or otherwise unknown deaths.

12 Q And so your focus is on the investigation
13 of deaths and the causes of deaths?

14 A Causes of death, mechanisms, manners of
15 death, things that contribute to death, primarily.
16 And it's injury interpretation and evaluation, too,
17 whether deceased or living individuals.

18 Q Okay. And so turning to page two of your
19 CV, you list here that you are a Fellow in forensic
20 pathology; is that correct?

21 A Yes.

22 Q And what does that mean?

23 A That means that after I finished my
24 four-year pathology residency then I completed a
25 further segment of post-graduate training that

1 focused specifically in forensic pathology and this
2 was, of course, it's a fellowship which is a
3 post-graduate or post-post-graduate period of
4 training.

5 Q And that was from July 1985 through
6 December of 1985, correct?

7 A Yes.

8 Q All right. And then jumping to employment
9 you note that you became an Associate Medical
10 Investigator for the Office of The Medical
11 Investigator for the State of New Mexico on
12 January 1st 1986; is that correct?

13 A Yes.

14 Q And then you worked there through June of
15 1986. So a period of about six months?

16 A Well, I was -- I was the associate medical
17 investigator. Then if you look at the next entry I
18 actually was promoted in status or stature, I guess,
19 to medical investigator. And what that means is
20 that I, I -- prior to June 30th of 1986 I was not
21 yet board certified in forensic pathology, and once
22 I completed those boards then I was promoted to the
23 full position.

24 Q So once you became board certified in
25 forensic pathology then you were promoted to actual

1 medical investigator; is that correct?

2 A Yes.

3 Q And what did you have to do to get board
4 certification?

5 A I had to take the boards, examination in
6 forensic pathology that's given by the American
7 Board of Pathology. And that particular year --
8 well, it used to be that it would rotate around to
9 different locations. And that year, or 1986 when I
10 took the test it was in Chicago. Now they're all,
11 it's headquartered in Tampa and everyone goes to
12 Tampa.

13 Q And so is this a standardized test?

14 A It's -- well, I don't know about
15 standardized. I mean it's put together by the
16 American Board of Pathology and I mean the questions
17 change.

18 Q I see.

19 A There's a certain number of written
20 questions and then 50 glass slides actually that we
21 would look at under a microscope and have to answer
22 questions.

23 And then actually -- it was rather fun --
24 they don't do it anymore -- a practical exam which
25 was a big room and they had, I think they had 25 --

1 well, it was actually 50 stations where there would
2 be an x-ray or a gun barrel or a bullet or a slice
3 of brain in a plastic container or something like
4 that. And we would have to look at these things and
5 answer questions and then rotate around.

6 Q I see.

7 A It was fun.

8 Q And when you say medical investigator, is
9 that different than medical examiner?

10 A Well, it's curious. In New Mexico the
11 State Board of Medical Examiners is actually the,
12 the entity that issues medical licenses. And that
13 existed -- I don't know how long, for a long time --
14 but the medical -- the statewide medical examiner
15 system was first developed, I believe in 19771,
16 think that's right, by Dr. Jim Weston and because
17 the term of medical examiner was already taken by
18 the licensing board, then it was decided to call the
19 statewide death investigation system the medical
20 investigator. So, you know, it's just primarily in
21 the terminology in New Mexico.

22 But the medical examiner for everywhere
23 else means a forensic pathologist dealing with
24 sudden and unexpected deaths. In New Mexico, they
25 call themselves the Office of the Medical

1 Investigator because medical examiner was already
2 taken.

3 Q I see. And so you were essentially
4 performing the same functions, it is just a
5 different terminology?

6 A Yes.

7 Q And as a medical investigator or medical
8 examiner, you're investigating causes of deaths so
9 are you performing autopsies on bodies?

10 A Oh, definitely. Oh, yeah.

11 Q All right. And then from the New Mexico
12 position, that's when you moved to Georgia, correct?

13 A Yes.

14 Q And why did you move to Georgia?

15 A Better job.

16 Q And when you moved to Georgia your first
17 job was an Associate Medical Examiner at the Fulton
18 County Medical Examiner's Office in Atlanta; is that
19 correct?

20 A Yes.

21 Q And you list here that you started in
22 December of 1989 through July of 1981. But then you
23 remained at the office, and I assume you got a
24 promotion to Deputy Chief Medical Examiner?

25 A Yes.

1 Q In July of 1991, correct?

2 A Yes.

3 Q And then you ultimately left the Fulton
4 County Medical Examiner's Office in 1997; is that
5 right?

6 A Yes.

7 Q And were you performing essentially the
8 same functions you were doing in New Mexico?
9 Performing autopsies, determining causes of death?

10 A Yes.

11 Q And then from there you became the Chief
12 Medical Examiner for the State of Georgia, the
13 Georgia Bureau of Investigation Division of Forensic
14 Sciences in June of 1997; is that correct?

15 A Yes.

16 Q And why did you switch positions?

17 A It was a better job, I mean an opportunity
18 for advancement at that point in time -- well, just
19 to back up.

20 In 1990 the law in Georgia, it's called
21 the Georgia Death Investigation Act was rewritten
22 and revamped completely and it established a
23 position of chief medical examiner for -- to the
24 Georgia Bureau of Investigation. But the decision
25 to actually implement the statute and fill that

1 position and create a statewide medical examiner's
2 office was never undertaken until 1997.

3 So when that decision was made and up
4 until that time actually from 1988 or '89 up to '97,
5 all the forensic pathologists at Fulton, the Fulton
6 County Medical Examiner's office perform autopsies
7 for the GBI on a contract basis, that is it's state
8 contracted with Fulton County. And when the
9 decision was made to establish the state medical
10 examiner's office, that contract then was going to
11 expired, be allowed to expire and essentially the
12 office was going to be split because we had -- well,
13 there were too many pathologists who just do
14 autopsies in Fulton County so that effectively is
15 what happened is the office was split and I applied
16 for the chief position was given, given that.

17 And then I took three of the other
18 pathologists with me to the GBI because otherwise
19 they would have lost their jobs at Fulton County
20 because there was no need for that many
21 pathologists.

22 Q And that's back in 1997, correct?

23 A Yes.

24 Q In terms of your day-to-day job, did it
25 change much or was it more from a title change

1 or....

2 A Well, I still was doing as many authopsies
3 as I had been doing for years but also was then
4 charged with supervising other pathologists and
5 nonmedical staff and building -- creating and
6 constructing a statewide medical examiner's office.

7 Q I see. And then you told us earlier then
8 you retired in November 2015, correct?

9 A Yes.

10 Q And since November 2015 have you conducted
11 any autopsies?

12 A A few.

13 Q And these are just private autopsies?

14 A Yes. Every couple of months or so it has
15 worked out.

16 Q And these are at requests of family
17 members?

18 A Yes.

19 Q Asking for essentially a second opinion or
20 the first opinion?

21 A The majority are just first opinions.

22 Q Okay.

23 A Second -- I rarely do second autopsies.
24 They're many times more trouble than they are worth,
25 quite honestly. And people have expectations but

1 frequently, you know, I can't fulfill. So -- but
2 I'm just trying to think. I think I've done one
3 second autopsy since I retired if I remember
4 correctly. No, two actually.

5 Q And the reason why you don't do a lot of
6 second autopsies, I think that you made a reference
7 that there are certain expectations that family
8 members may have about the cause of death that may
9 not be able to be confirmed via a second autopsy?

10 A Well, yes. It's the -- there's a
11 disparity between what the pathologists will find
12 and what the family expects or wants them to find.
13 Although, I mean I think I told you I think I've
14 done two second autopsies since I retired. I'm
15 trying to think if I've been called -- I think I may
16 have been called about one other, but I was actually
17 at the airport on my way to somewhere else and I
18 couldn't do it anyway. But, you know, I very rarely
19 get called anyway in any case.

20 Q And I know this might be a difficult
21 question but in your entire career can you give us
22 just a ballpark figure of the number of autopsies
23 you've completed?

24 A Oh, sure, actually I can. It's -- of the
25 two things that I've kept track of that's one of

1 them. And I personally have done over 6,600
2 autopsies myself. And I've directly supervised,
3 witnessed or reviewed somewhere maybe 88,000 to
4 90,000 others. But as far as ones that I just, that
5 were my own cases over 6600.

6 Q And those 6600 autopsies you performed,
7 how many involved death as a result of sickle cell
8 disease or complications with sickle cell trait?

9 A Okay. Well, sickle cell disease
10 relatively few, probably maybe ten or 12 and most of
11 the -- because the vast majority of patients with
12 sickle cell disease are clinically diagnosed. In
13 fact, they rarely present in the context of a sudden
14 unexpected death. And so because they haven't
15 established a medical diagnosis, most of the time
16 they end up dying in the hospital related to
17 oftentimes strokes, you know, brain injuries that
18 occur or heart attack, myocardial infarctions
19 because of the sickling complications. Or long-term
20 effects, say heart failure because of chronic
21 ischemia or blood flow impairment related to
22 sickling crises.

23 But there's a certain number of people
24 with sickle cell disease that are found say, dead at
25 home and most of those end up -- although sometimes

1 it may be from acute crisis and they just did not go
2 seek medical attention. But also drug overdoses,
3 narcotic overdoses are a severe problem with
4 patients with sickle cell disease because, you know,
5 at very young ages usually starts being treated with
6 narcotics because of the pain.

7 Q Right.

8 A And it's, you know, it's an unfortunate
9 problem because addiction ensues and there's drug
10 abuse and heroin abuse that goes along with it so
11 there are those patients. So that's a tiny subset.

12 Sickle cell trait -- I'm thinking ones
13 that I've done myself -- perhaps five or six,
14 something like that. Most of those patients who die
15 present in the context of a sudden unexpected death.

16 MR. SPEARS: Sun, when we get to a point
17 to take a break.

18 MR. CHOY: Sure.

19 (A short recess was taken.)

20 Q (By Mr. Choy) Dr. Speer, we're back on the
21 record.

22 Before we left off we were talking about
23 the number of personal autopsies you performed. You
24 were telling us that you estimate between five and
25 six of individuals with sickle cell trait that you

1 performed, correct?

2 A Yes, that I did myself, yes.

3 Q Just a couple of follow-up questions.

4 Are individuals with sickle cell disease,
5 and I think the impression that I got from you was
6 that it was already clinically diagnosed with sickle
7 cell disease and it wasn't that big of a mystery to
8 figure out they died from sickle cell disease.

9 A Well, yes. I mean it's sudden and
10 unexpected deaths, deaths that generally fall under
11 the jurisdiction of the medical examiner's offices
12 really -- the majority are sudden unexpected,
13 undetermined, questionable, things like that. And
14 patients with sickle cell disease rarely have sudden
15 unexpected deaths although they do occur from
16 sometimes, you know, they have a sickle cell crisis
17 with brain involvement and they may be found dead at
18 home. And then the question arises as to what
19 caused the death.

20 And then a medical examiner would, you
21 know, take jurisdiction and do an autopsy. But the
22 majority of these patients, if it's really a
23 complication of sickle cell disease, they usually
24 die in the hospital. I mean it's from organ
25 failure, oftentimes heart failure is the really, the

1 biggest issue. And then of course, as I mentioned
2 drug overdose, drug intoxication that accounts for a
3 large percentage of people who die outside of the
4 hospital who are just found deceased who have sickle
5 cell disease.

6 Q And that's what I was trying to drive at.

7 I think you mentioned the statutory
8 jurisdiction that your office has. And then you
9 mentioned the term sudden and unexpected death. So
10 a death has to be sudden and unexpected for your
11 office to have jurisdiction?

12 A Well, and then talking about specifically
13 about Georgia, there's nine basic categories of
14 deaths that must be reported to the medical
15 examiner's office and the broadest one is sudden and
16 unexpected otherwise in apparently good health.

17 So that would encompass a wide array of
18 deaths. I mean the 85-year old man who's had five
19 heart attacks who is just found dead in chair
20 watching TV, I mean that's sudden and unexpected in
21 the sense, you know, no one really expected him to
22 die but at that the same time, you know, knowing
23 that he had a severe and extensive medical history
24 helps a great deal in determining whether or not an
25 autopsy is done. Versus a 20-year old man say,

1 who's dead on his living room floor. You know,
2 those are pretty much automatic autopsies and then
3 extensive toxicology and things like that.

4 Q So in your example of the old man with the
5 heart issues, in making a determination whether to
6 take jurisdiction to do an autopsy, do you have the
7 benefit of his medical records?

8 A Well, that -- yes, that's a big, a big
9 part of it.

10 Q Okay.

11 A Is, you know, getting -- you know, here in
12 Georgia the medical examiner's office has the power
13 of subpoena to obtain medical records and that is a
14 routine part of the any death investigation where
15 it's, you know, where it's felt that medical records
16 are necessary to review. And sometimes that's the
17 only thing really that is, that is evaluated.

18 Q And then in those instances with the
19 individuals with sickle cell disease, when you write
20 out the report what would be the actual cause of
21 death?

22 A Well, depends on what we find. I mean
23 there's different ways, different ways to do, do it.
24 I mean just in a broad sense complications of sickle
25 cell disease is something that is used, you know,

1 fairly frequently or to get more specific say,
2 stroke or cerebral infarction due to sickle cell
3 disease or complications of chronic congestive heart
4 failure do to ischemic cardiomyopathy due to sickle
5 cell disease.

6 Q I see.

7 A So there's, you know, somewhere in there
8 the sickle cell disease is listed as, you know,
9 essentially the precipitating factor. You know, if
10 indeed the death is related to just the sickle cell
11 disease itself.

12 Q Okay. Then with respect to those five or
13 six individuals with sickle cell trait that you
14 performed an autopsy on, what would be the cause of
15 death there?

16 A All of those were individuals who
17 collapsed and died precipitously usually -- well,
18 without a diagnosis being made. Sometimes the death
19 occurred fairly soon after the collapse. Other
20 times it was delayed, maybe by hours, even on
21 occasion days without a diagnosis being made --
22 well, there's a couple of different things.

23 Frequently, especially if no one thinks
24 about it, then the fact that they have sickle cell
25 trait is something that really is detected at the

1 autopsy. And that then puts, you know, the death
2 into context.

3 And then there are situations where the
4 death -- well, talking about Mr. Wilson, for
5 instance. There's deaths that occur during
6 interactions with law enforcement or -- I can recall
7 one death where there was an African-American man
8 who was a police, a recruit for a police department
9 and was in the process of training and he
10 deteriorated and collapsed and ultimately then
11 died -- I don't remember how long he lived, he
12 didn't live very long. But, you know, the diagnosis
13 was sickle cell trait was made really at the
14 autopsy.

15 So depending on the circumstances in which
16 the death occurs, then that -- that sort of defines
17 whether or not jurisdiction is taken. But as I said
18 since most of these deaths in sickle cell trait,
19 patients are, fall under the general sudden and
20 unexpected category. Then, you know, they usually
21 are picked up by medical examiner offices.

22 Q Okay. So you're telling us in terms of
23 those five or six they sort of ran the gamut in
24 terms of individuals who just die suddenly right
25 there on the spot and some who may linger on for

1 days?

2 A Yes.

3 Q Okay. And is there any discernible
4 pattern there with respect to why somebody would die
5 suddenly there on the spot and while others would
6 linger on for days?

7 A No, no. None that I'm aware of.

8 Q Okay. Have you ever had -- well, I read
9 in the papers about high school football players who
10 just die on the field after a workout in the summer.

11 A Yes.

12 Q Are those sickle cell trait causes that
13 you're referring to?

14 A Some are. Some are. And, of course,
15 they're almost -- well, they're African-American
16 young men who are engaged in, you know, football
17 training and conditioning for the most part. And
18 then there are others that the death is related to
19 an underlying, undiagnosed heart abnormality.

20 Q Okay.

21 A That's the most, the common thing that is
22 found.

23 Q You referenced this police recruit who
24 died during training. Was that similar to these
25 individuals who die out on the football field?

1 A Yes, football fields or in a military,
2 usually in basic training where there's, you know,
3 they're all -- in fact, I'm trying to think, I can't
4 remember seeing any young women, African-American
5 women with sickle cell trait die. But the majority
6 are men.

7 But then again, you know, football
8 players, you look at police recruits and individuals
9 in the military they get, the majority are males.
10 So from a statistical standpoint it makes sense.
11 But that's, you know, they're undergoing some kind
12 of physical training and usually it's a situation
13 where there is fairly intense exertion over a short
14 period of time. That's usually the most common, I
15 would say general presentation or the general
16 circumstances that precede the signs and symptoms
17 and even collapse.

18 Q Okay. So do you have an understanding of
19 the mechanism that would trigger such a response in
20 individuals with sickle cell trait?

21 A Well, that's a good question because no
22 one really knows exactly what the mechanism is.
23 It's, as you can imagine, it's impossible to say,
24 try to precipitate such an event in people with
25 sickle cell trait. I mean, you know, you can't do

1 that. It's not an experiment that anyone could ever
2 do.

3 And so -- and in association with that,
4 there are -- well, I would say different, not only
5 different philosophies but differing policies and
6 procedures at the level of high school and college
7 athletics and in the military with respect to
8 whether or not individuals should be tested for the
9 presence of sickle cell trait and those have
10 different, different thought, you know, different
11 approaches have come and gone over the past 20
12 years. So the majority of people who have these
13 sudden collapses, it's not known that they have
14 sickle cell trait to start with.

15 And then the problem from a mechanistic
16 standpoint is determining what, what we end up
17 looking at clinically and pathologically are the
18 derangements that the individuals have, the patients
19 have after they have deteriorated or collapsed or
20 manifested the signs and symptoms. So I mean
21 elevated lactic acidosis and or elevated lactic acid
22 with subsequent metabolic acidosis and elevated
23 potassium are things that are usually seen and then
24 these may progress on to what's called
25 rhabdomyolysis that's r-h-a-b-d-o myolysis which is

1 death of skeletal muscle cells with a concomitant
2 release of muscle proteins into the blood that plug
3 up the kidneys and stop the kidneys from
4 functioning. But as far as what actually truly
5 triggers the event, that's something that I mean to
6 say it's not well understood is a, you know, an
7 understatement. No one really knows -- in fact,
8 there's just no predictable way to say that, you
9 know, some sequence of events is going to cause a
10 certain specific derangement that then results in
11 the collapse.

12 Q Okay.

13 A If that -- sorry for the long --

14 Q Oh, no, no --

15 A -- dissertation.

16 Q And I appreciate that and that's what I
17 was trying to figure out.

18 So a lot of these individuals are either
19 undiagnosed or diagnosed but then even if they're
20 diagnosed they're sort of "normal" in terms of their
21 daily activities, correct?

22 A Exactly, yes.

23 Q And so the example of the football player
24 that might have worked out for weeks previously
25 under similar conditions and nothing happens, right?

1 A Exactly, yes.

2 Q And then on this particular day it
3 happens?

4 A Yes.

5 Q And so my question to you, and if I
6 understand your testimony, that there is not really
7 a scientific or pathophysiology understanding of the
8 mechanism that would trigger a particular event?

9 A Yes, that's fair. I mean there's, there
10 are interventions that have been undertaken with,
11 with good success, especially in the military to
12 prospectively try to prevent whatever the, the
13 environment is in the individual's internal milieu
14 from progressing into a sickle -- into a sudden
15 collapse associated with sickle cell trait.
16 Hydration, rest periods, observation for, you know,
17 say if somebody starts having muscle cramps, I mean
18 it's immediately take them out of whatever physical
19 activity they're doing and have them rest and give
20 fluids and evaluate them and be very careful about
21 reinstituting them back into the physical, you know,
22 exercise that they're doing. And those prospective
23 interventions have been very successful in
24 preventing whatever it is that precipitates the
25 sudden collapses. But you know, as far as

1 identifying how that works that, you know, no one
2 really knows for sure.

3 Q Okay. And so I expect your answer to this
4 question is that you're not aware of any, but are
5 you aware of any peer reviewed studies on the
6 triggering event for the causes of these sudden and
7 unexpected deaths in individuals with sickle cell
8 trait?

9 A No, I mean I would say uniformly that's
10 one of the, one of the statements made in the
11 literature dealing with, with sickle cell trait and
12 sudden cardiac collapse associated with exercise in
13 sickle cell patients is that there are no studies.
14 There's no best practices, there's no established,
15 you know, approaches to diagnosis and prevention
16 that can, you know, uniformly -- well, be shown to
17 have, I would say, you know, statistical validity to
18 it.

19 Q Okay. And so then such an incident
20 occurs, there is a sudden unexpected death, they end
21 up in your jurisdiction, you perform the autopsy and
22 then tests are run that essentially confirm to you
23 that the individual died as a result of this crisis.
24 I'm using that word even though --

25 A Sure.

1 Q -- it's technically not correct --

2 A No, I understand.

3 Q -- with the sickle cell trait.

4 A I understand. The test -- well, first of
5 all is the autopsy itself which the terminology that
6 we would use in a case like this is that it would be
7 a negative autopsy that is in the sense that in
8 conducting the autopsy examination and looking at
9 the heart and the brain and the liver and all the
10 organs, there is no specific identifiable anatomic
11 cause of the death. In other words, all of the
12 organs appear to the naked eye and, you know, on
13 examination appear to be normal.

14 And then microscopically in looking at
15 tissue sections from the various organs, finding the
16 presence of large numbers of sickle red blood cells
17 and that usually is, I would say the trigger and
18 again in forensic pathology today I would say that
19 if we have a primarily -- say a young
20 African-American man who dies suddenly and
21 unexpectedly especially in a say, somewhat witnessed
22 scenario like we've been talking about, someone, a
23 student engaged in football practice or a military
24 recruit engaged in some exercise and so they're
25 witnessed by others.

1 The decision by the medical examiner to do
2 the hemoglobin electrophoresis of the hemoglobin
3 testing is sort of a no-brainer. I mean that's sort
4 of automatically you would do that in conjunction
5 with the autopsy itself. So all the organs are
6 normal and the heart is normal size and there's no
7 holes anywhere that shouldn't be there and, you
8 know, other things that are all normal. Then doing
9 the hemoglobin electrophoresis would confirm what we
10 see under the microscope which is the sickling. And
11 then the electrophoresis would establish a
12 diagnosis, establish the percentages of hemoglobin
13 like we talked about earlier and give the diagnosis
14 of sickle cell trait.

15 Now, other testing, of course, that would
16 be done always today is doing toxicology testing,
17 looking for any drugs that might be present and
18 certainly could cause or contribute to death. I
19 mean, unfortunately cocaine and methamphetamine are
20 somewhat rampant and, you know sometimes, these may
21 be found in someone who dies or collapses suddenly
22 and unexpectedly. So that's part of it.

23 And the last thing that would be done as
24 actually was done with Mr. Wilson, is looking at the
25 electrolytes, the sodium and chloride and creatinine

1 levels in the vitreous fluid of the eye to see what
2 levels they are. It's very common in deaths, sudden
3 collapse during exercise related to sickle cell
4 trait patients. It's very common to have an element
5 of hydration that is, that is present and that's
6 what the vitreous electrolytes studies will do is to
7 show that.

8 Q In terms of the electrophoresis testing to
9 see if the red blood cells are shaped in a sickle
10 cell shape --

11 A Well, the electrophoresis actually
12 identifies the hemoglobin --

13 Q Percentages --

14 A -- yeah, that's what that does. The
15 sickling is, would be seen --

16 Q -- under microscope --

17 A -- exactly. In tissue sections from
18 organs under the microscope, exactly.

19 Q And as a medical examiner would you expect
20 to see the sickle cell when you look under the
21 microscope in every organ of the body?

22 A Yes.

23 Q Okay.

24 A Yes. They would be everywhere. It's
25 pretty easy.

1 Q Okay. Are you aware of any peer review
2 studies that examine the level of essentially
3 sickling that's necessary to cause death?

4 A No I'm not aware of anything that
5 evaluates that, that's evaluated that because I mean
6 for the obvious, obvious reason again. You can't
7 conduct experiments like that on humans. It's now
8 to answer that with respect to sickle cell disease
9 that is, is better understood only because patients
10 with sickle cell disease are symptomatic, you
11 know --

12 Q Sure.

13 A -- you know, from childhood. Even
14 infancy. And what's been found is that although,
15 you know -- well, and we talked about this earlier.

16 The precipitating things, precipitating
17 events that can cause a sickling crisis in someone
18 with sickle cell disease, although many times
19 they're not known but other times that, you know,
20 you can almost predict -- I mean what's, what's,
21 what is happening with a patient. They're not -- if
22 they get dehydrated or they're working out and they
23 don't, you know, they're not taking fluids in or
24 they're under a stress, physical stress especially,
25 this can precipitate the sickling.

1 The problem with the sickled cells is that
2 the process -- the sickling could be reversible in
3 that they reassume their normal shape, the red cell
4 normal shape unless the amount of oxygen on the
5 venous side gets below about 25 millimeters of
6 mercury and then the sickling becomes irreversible
7 and that's at the point then where patients may need
8 transfusions and other things to try to restore the
9 oxygen carrying capability of their blood.

10 So as far as what -- and I think I forgot
11 what exactly you asked me -- but that's in sickle
12 cell trait that, that definitely is, you know, it's
13 not.

14 Q Okay. I was just curious because just as
15 a layperson I was wondering if the sickle cell trait
16 was only found in certain organs then, there's some
17 studies that say that that wasn't necessarily the
18 cause. But you've told us here today that you would
19 see it in every organ --

20 A Yes, because -- pardon me, I didn't mean
21 to interrupt you.

22 Q Yeah.

23 A Because it affects the blood --

24 Q Sure.

25 A -- and the blood, as we said earlier goes

1 everywhere, you know --

2 Q Right.

3 A -- from the top of your head to your toes
4 and everything in between. So, you know, seeing the
5 sickling under the microscope is going to be
6 ubiquitous and not restricted to one organ or the
7 other.

8 Q Right. Then I guess the next question is
9 is there a certain amount of sickling that you see
10 in every cell that would indicate that that was the
11 cause of death?

12 A Well -- well, yes to a degree in the sense
13 that earlier we spoke about, you were asking about
14 percentages of hemoglobin or hemoglobin A versus --
15 well, I was talking about hemoglobin A versus
16 hemoglobin S and the -- because it's pretty much
17 evenly split, you know maybe, you know, 40 to 45
18 percent hemoglobin S as compared with hemoglobin A
19 in a person with sickle cell trait that's not
20 complicated by other hemoglobinopathies, that's not
21 worth talking about.

22 But about half of the cells, the red cells
23 that would be seen under the microscope would be
24 sickled because half of them are normal and the
25 other half have the sickling capability because of

1 the mutation involving them. So it would be split
2 basically 50/50 in that sense although the sickling
3 cells will tend to clump and sludge together. So
4 you'll see maybe sections of a blood vessel under
5 the microscope where there's a hundred thousand
6 sickled cells and then normal cells in other places
7 because they are not slumping together.

8 Q So let me see if I understand this. So
9 let's say an individual is a candidate as a
10 potential sickle cell trait. They do the
11 electrophoresis test. It comes back and it says
12 that it is 35 percent this S hemoglobin, right?

13 A Yeah, okay.

14 Q Let's say that for my example.

15 A Okay, okay.

16 Q And so then if I looked at the blood cells
17 whether they're perfectly feeling fine would 35
18 percent of the red blood cells be sickled shape?

19 A Oh, okay, okay. I understand. No --

20 Q -- they're not, right?

21 A Right. Yeah, they're, they're not. The
22 sickling is not, you know, that is an abnormal
23 condition.

24 Q Right. And so someone who say, just in
25 the hypothetical that you posed who is feeling fine

1 and has their blood drawn for a, you know, a blood
2 count, their doctor wants to do a test for one
3 reason or the other, all the blood cells would look
4 fine. They would look totally normal. But we know
5 from the electrophoresis test that 35 percent of
6 them carry this S hemoglobin, correct?

7 A Exactly, yes.

8 Q And so again same hypothetical, we don't
9 know the mechanisms for, but let's say there is a
10 triggering event of some sort and this person now
11 has the sickling occurring and they end up dying.
12 And so when you look at the blood cells, are you
13 telling us that 35 percent of the red blood cells
14 would then be sickled?

15 A Yes.

16 Q Okay. All right. And so if, same
17 example, if it was 45 percent is what the
18 electrophoresis test showed, then 45 percent of
19 those cells would then be sickled?

20 A Yes.

21 Q Okay.

22 A And if you could really quantitate it in
23 that way just because especially with tissue
24 sections, as I said the sickling --

25 Q Sure.

1 A -- the sickled cells tend to sort of clump
2 together but they're, you know, it's like seeing a
3 flock of blackbirds, you know, with a few ducks
4 scattered around. You know, all the blackbirds
5 clump together and you just see hundreds of
6 thousands of sickled cells in every tissue section
7 that you look at, you know, with a mixture of normal
8 red blood cells, you know, to varying degrees. So,
9 you know, that's -- that is what would be seen. You
10 know, you would not have more than half of the red
11 blood cells sickled in someone who has sickle cell
12 trait and then dies as a complication.

13 Q Right. And so with respect to just doing
14 the autopsy when you have this sudden unexpected
15 death and you do the blood testing and the
16 electrophoresis, do you do the electrophoresis as
17 part of the autopsy, right?

18 A Well, yes. That would be a test that
19 would be ordered that the blood -- well, the medical
20 examiner's offices don't -- I don't know of any that
21 have that, the capability to do that testing
22 in-house because it's called for so infrequently.
23 But any -- if you went -- any hospital here in
24 Atlanta would, the laboratory would be able to do
25 that.

1 Q And to just jump ahead with respect to
2 Mr. Wilson's autopsy, was that done, that
3 electrophoresis test?

4 A Oh, yes.

5 Q And what was the results of that?

6 A Well, the results I can tell you if I can
7 find that. Yes, this is from page four of the
8 autopsy report. The hemoglobin A was 55 percent.
9 Hemoglobin S was 40 percent. Hemoglobin A2, which
10 is a subtype of A but still normal, is 3.5 percent.
11 And then hemoglobin F, that's fetal hemoglobin was
12 1.3 percent. And that's also normal, in the normal
13 range. So the key really is that the hemoglobin S
14 was 40 percent it normally should be less than one
15 percent. And the hemoglobin A was 55 percent and
16 normally it should be somewhere between 96 and
17 99 percent.

18 Q Okay. And so with respect to Mr. Wilson
19 then 40 percent of his blood was then, blood cells
20 were sickled?

21 A Yes, that's, that's a reasonable
22 deduction.

23 Q Okay.

24 Are you aware of any peer reviewed
25 articles that examine the percentage of sickle cell

1 S hemoglobin with respect to then mortality rates?

2 A Okay. The only literature I'm aware of
3 dealing with that is just in the broad categories of
4 sickle cell disease where we are talked earlier that
5 life expectancy is reduced and, you know, mortality
6 from a variety of things. Usually complications of
7 sickle cell -- the complications of the sickle cell
8 disease usually in the heart, sometimes the brain.
9 That's, you know, that's increased but it's of
10 course, that's -- that would exist because that's
11 restricted just to the population of people with
12 sickle cell disease. Other patients without it, you
13 know, don't have mortality related to sickle cell
14 disease.

15 Of course, sickle cell trait we talked, I
16 spoke earlier that, you know, life expectancy is,
17 you know, it's not, it's not reduced.

18 Q Okay. What about the chances of having
19 this sort of triggering event occur in your
20 lifetime? So if you're like 40 percent and higher
21 because it's 40 percent --

22 (Dr. Sperry takes telephone call.)

23 Q (Resumes) Dr. Sperry, we were talking
24 about if there's any studies out there about whether
25 there's an increased chance of having such a, sort

1 of, let's just use crisis for lack of a better word.

2 A Sure.

3 Q If you have a certain percentage of the S
4 hemoglobin.

5 A Well, okay. What, what at least is known
6 is that the, the few studies that have looked at
7 this have really been in the military because -- and
8 it makes sense because the population -- well, the
9 individuals that go into military service, I mean
10 they're -- the government keeps track, they know who
11 everyone is. And, you know, they can monitor every
12 single soldier in any of the different branches
13 completely. And so they can keep track of this.

14 And also there's definite interest in this
15 as well, and what has been found is that looking at
16 people who, at young recruits who have had
17 collapses, exercise-related collapses, that
18 individuals with sickle cell trait have something
19 like a 33 times greater incidence of an
20 exercise-related collapse as compared with military
21 recruits who do not have a sickle cell trait because
22 there are other things, primarily heart, undetected
23 heart problems that may cause, you know, a collapse
24 or just simple heat stroke, for instance.

25 But if you, you can separate those, and as

1 I said patients with or individuals, young men with
2 sickle cell trait have a very dramatically increased
3 likelihood of if a collapse occurs, you know,
4 there's 33 times greater incidence in sickle cell
5 trait -- men with sickle cell trait versus those
6 without. And that's, that's about the only --

7 Q That's the closest we can get?

8 A Yeah, that's the closest we can get
9 because those, you know, like I said those
10 populations are, you know, monitored very, very
11 closely.

12 Q Sure.

13 MR. GRAY: And is that not related to
14 40 percent S or just in general?

15 THE WITNESS: Well, sickle cell trait, I
16 mean it's, it's -- you know, the majority of
17 people with just un- -- I would say
18 uncomplicated sickle cell trait or sickle cell
19 trait that's not complicated by one of the
20 other associated hemoglobin disorders, you're
21 talking about, you know, one of -- around
22 usually 40 to 45 percent hemoglobin S. It
23 varies slightly. And it gets into other
24 things, too.

25 But, you know, it's -- hemoglobin S

1 percentage of less than 45 percent is not a
2 contraindication for military service. But
3 actually if you have sickle cell trait, I mean
4 the way the policies are today and your
5 hemoglobin S percentage is greater than 45
6 percent, then that's medical grounds for an
7 honorable discharge, you know. Now why, why
8 that was set up, I can't tell you. That's, you
9 get, that gets into the military bureaucracy
10 that's beyond me.

11 Q (By Mr. Choy) Sure.

12 A But anyway.

13 Q Okay. So one step further, in individuals
14 with sickle cell trait are you aware of any peer
15 review studies that studies the outcome of whether
16 it's reversible or not, percentage wise, once you
17 have this crisis?

18 A I'm not aware of my peer reviewed studies
19 that have, you know, have looked at that because the
20 cases are sporadic. And at least to my knowledge no
21 one has yet been able to assemble a large enough
22 group to look at survival, you know, to be -- to be
23 able to say that it's statically relevant, you know.

24 Q So no one has gone out there, studied all
25 these unexpected collapses, ones that actually

1 people survive and the ones that people die and then
2 try to figure out what happened in those cases?

3 A No, not -- not that I'm aware of. I mean
4 there are smaller groups. Again, in the military
5 there are, you know, small groups of individuals
6 where this is being looked at and this is really
7 where the, the recommendations for not only the
8 prospective intervention that I spoke about earlier
9 have, have -- you know, have been developed but also
10 treatment algorithms in situations where, you know,
11 this, this development -- this develops at least
12 what has been seen since the institution of this,
13 you know, in the last five, six years or so is that
14 the number of deaths has almost disappeared.

15 So at least the implication is is that
16 interventions, therapeutic interventions are --
17 well, not only definitely worthwhile but they're
18 preventing deaths from occurring as a complication
19 of the sickle cell trait, you know, crisis for want
20 of a better phraseology.

21 Q And when you say therapeutic preventions,
22 you're saying before a crisis starts you're already
23 looking at an individual to see if they have the
24 trait or not?

25 A Well, no, actually it's -- that's a good

1 question. I mean the Department of Defense for more
2 than 20 years had a policy of testing everybody, you
3 know, every African-American or not for sickle cell
4 trait. Of course, it really only -- it's only seen
5 in individuals of African-American, or I would say
6 African decent. But that was reversed, oh, I don't
7 know, five or six years ago completely and so no
8 testing is done.

9 Q Okay.

10 A Because it's, you mentioned earlier, it's,
11 it's not a, a grounds for elimination from military
12 service if someone has sickle cell trait.

13 Q Okay.

14 A In other words, you know, a lot of ethical
15 considerations and for men who wanted to serve in
16 the military, so it was eliminated. So testing
17 beforehand is pretty much not done.

18 Q And what do you mean by therapeutic
19 prevention --

20 MR. GRAY: Intervention.

21 Q (By Mr. Choy) Intervention. Oh,
22 intervention. That's where I got confused.

23 A Yeah. Well, it depends, you know, really
24 on the severity of, you know, of how someone -- how
25 someone presents. Initially, especially if someone

1 is conscious and alert, then frequently the
2 presenting problem is one of muscle pain. Pain in
3 the legs, pain in the back, pain in different
4 places. And, of course, having someone who is of
5 African lineage should give, you know, a clue to the
6 possibility that there's a sickle cell trait maybe,
7 you know, the underlying culprit.

8 But then if the individual starts having
9 say, difficulty breathing or actually a collapse or
10 becomes confused, disoriented, unresponsive, then
11 the administration of oxygen and fluids and actually
12 putting an AED, an automatic external defibrillator
13 on their chest not only to monitor the heart rate
14 but also if indeed there's a sudden cardiac rhythm
15 disturbance, then an AED can give them a shock to
16 get them out of that cardiac rhythm disturbance.
17 Those that are the protocols that are followed. So
18 oxygen, fluid administration and then of course
19 monitoring with a cardiac monitor, preferably an AED
20 machine.

21 Q And we talked about this earlier, but in
22 terms of the actual pathophysiology of what happens
23 when a patient is given oxygen and fluid as this
24 therapeutic intervention, you don't have an
25 understanding of that, do you?

1 A Well, no one really does in the sense
2 that, you know, what exactly is the physiological
3 aberration that is starting, initiating the process
4 and causing it to progress. Although, you know, I
5 said a couple of times there's things that are
6 relatively well accepted in the sense that some
7 element of dehydration is almost always present.
8 And there's an increase in lactic acid which results
9 in metabolic acidosis.

10 And then as the sickling process begins to
11 progress, hypoxia or lack of oxygen in the blood
12 that's being, you know, pumped to the tissues so
13 there's some element of tissue starvation that,
14 especially the skeletal muscles, but then causes the
15 lactic acid to be produced in greater quantities so
16 it starts -- it appears to start somewhat of a
17 deadly cycle in there.

18 But there's, you know, a lot of
19 biophysical issues that have not, you know, have not
20 yet been worked out completely. And it appears that
21 there are different pathways, different metabolic
22 pathways that are involved. So one size does not
23 fit all. Those are, you know, things that are
24 proposed as, you know, things -- elements to try to
25 research, you know.

1 Q Sure.

2 MR. GRAY: Sun, wasn't your question based
3 as to whether there were peer reviewed studies
4 that have addressed the issue of whether
5 interventions work when someone is in crisis?

6 MR. CHOY: That was my question.

7 THE WITNESS: Oh, was it. Okay. I got
8 off in the weeds. I'm sorry.

9 MR. GRAY: You're just talking about
10 certain --

11 THE WITNESS: Yes.

12 MR. GRAY: -- methods of treatment that
13 are provided.

14 THE WITNESS: Right. There's -- and I
15 understand what you're saying. As far as peer
16 reviewed studies, no none that I'm -- none that
17 I'm aware of. But the institution of the
18 things that I, that I, again went off on a
19 tangent describing, has, you know --

20 MR. GRAY: I get it.

21 THE WITNESS: Yeah, the deaths have
22 basically almost disappeared, you know, at the,
23 at the level of the military which is where the
24 greatest percentage comes from. So, you know,
25 that's why these things are recommended because

1 if, if we -- if they don't understand exactly
2 why they work, what is at least being found is
3 that they appeared to work.

4 Q (By Mr. Choy) My question is more pointed
5 to your qualifications, Dr. Sperry, in terms of do
6 you consider yourself to have expertise in terms of
7 the mechanisms for a pathophysiology standpoint of
8 what happens when this therapeutic intervention is
9 done.

10 A Oh, as far as the mechanism? I mean no, I
11 would not, I don't know that anyone has, you know,
12 has -- could say they are -- they have specific
13 expertise, you know, in, in that area.

14 Q But at the very least you would defer to a
15 hematologist?

16 A Well, I don't know a hematologist really
17 would have that much of an understanding either
18 because they don't really care for individuals in
19 those sorts -- these sorts of situations we've been
20 talking about.

21 See -- although I don't know everything
22 that, I mean most of the people that have written
23 about, about what we're talking about, the treatment
24 and intervention in sickle cell trait patients are,
25 deal with sports medicine. And there are some

1 physicians in the military, in military medicine
2 because they have a definite interest in this and
3 some of emergency room physicians.

4 Q Well, again, from a layperson standpoint
5 I'm trying to understand this, and so you said in
6 your response you talked about this sort of deadly
7 cycle?

8 A Yes.

9 Q And what I took that to mean is at some
10 point, depending on the individual, you have this
11 triggering event which we don't know, this sort of
12 mysteries of science in medicine as to what in
13 particular might trigger an event on this particular
14 person at that particular time. But once that
15 occurs we do have an understanding that whatever
16 their percentage of S protein in their red blood
17 cells would be, those cells become sickled, correct?

18 A Yes.

19 Q And so once those cells become sickled,
20 earlier you talked about the viscosity of the blood
21 changing, becoming a thicker sort of sludge,
22 correct?

23 A Yep.

24 Q At what point does science have an
25 understanding of, is there a point of no return that

1 it becomes so sludged or sickled or so throughout
2 the body that none of these therapeutic
3 interventions are going to have any effect?

4 A To the best of my knowledge, no. I mean
5 the only point of no return I have ever seen
6 referenced really dealt with patients who have had a
7 cardiac arrest from which they could not be revived.
8 I mean -- and there are, there are patients who have
9 a cardiac arrest but they are revived and survive.
10 But that's, I would say once, once a cardiac arrest
11 truly occurs, then survivability is going to
12 decrease, you know, depending really on, on other
13 factors.

14 Q But you're not aware of any peer review
15 studies addressing that particular point?

16 A No.

17 Q Okay. And I think you mentioned this term
18 about it's different metabolic pathways depending on
19 the individuals, and I took that to mean that it
20 would just depend on the individual.

21 A Well, you know, I'm perhaps communicating
22 poorly. But there are different -- the metabolic
23 pathways that seem to lead to evaluation of
24 potassium and elevations of lactic acid and changes
25 in the blood, acid base balance, there's not one

1 specific pathway that leads to that. There's a
2 variety of different, I think maybe six or eight
3 different ways in which this ultimate combination
4 can be achieved. And again that's, you know,
5 something that in the broadest sense is what
6 everyone's hoping for the research may clarify this.
7 But it isn't, you know, it just underscores that it
8 isn't, it's not the same for everyone as far as it's
9 really understood.

10 Q Okay. Going back to your CV in terms of
11 your academic appointments, you just pretty much
12 list out essentially the academic positions held but
13 these were just adjunct professor positions?

14 A Yeah. Well, when I was at the University
15 of New Mexico, I mean I was an assistant professor
16 there until I left. And then from 1990 up until I
17 retired, I had an affiliation at Emory when I was
18 with the Fulton County Medical Examiner's Office.
19 And then a clinical assistant and clinical associate
20 professor at the Medical College of Georgia. But
21 those were courtesy appointments. I mean there was
22 no, no money involved. I was not paid anything and
23 there was no tenure track or anything like that.

24 Q Sure, sure.

25 When you say courtesy appointments, were

1 you actually teaching classes?

2 A I was teaching pathology residents. That
3 was -- the Medical College of Georgia sends their
4 pathology residents here to the GBI Medical
5 Examiner's Office --

6 Q I see.

7 A -- to get their required forensic
8 pathology training, so I supervised teaching in
9 those aspects.

10 Q And then based on that, then you held the
11 title of clinical associate professor.

12 A Yes, the MCG, you know, gave that to me so
13 I thought that was fine.

14 Q Sure. Okay.

15 Under medical licensure, you list your
16 current medical licenses but then you note that
17 Minnesota is no longer current. Why is that?

18 A Oh, that was the first license I got.

19 Q Okay.

20 A And you remember when I finished my
21 internship I went to the Indian reservation in
22 Minnesota. And so I got a medical license there and
23 after I left there I swore I would never go as far
24 north as Minnesota ever again. So I saw no reason
25 to continue it. Although I have a license in

1 Wisconsin, so go figure.

2 Q And I'm just curious, why do you have a
3 license in Wisconsin?

4 A Well, my wife and I have a condo up there.
5 She was actually born south of Green Bay, Wisconsin,
6 and for actually about seven or eight years we
7 actually got season tickets to the Packers and, you
8 know, when we lived here in Georgia, we went to
9 every Green Bay Packer home game. But we have a
10 condo there and we like it, and I got a license
11 mostly in case I ever wanted to work at any ME
12 office there or do any part-time or locums work.

13 Q Okay. And how does that work in a medical
14 field, do you just get reciprocity?

15 A Yes, the vast -- most states accept
16 reciprocity. There's a few states that don't but,
17 or are much more complicated, but most states will
18 have that. It's still a very tedious process --

19 Q Sure.

20 A -- but it's not painless -- or painful I
21 should say.

22 Q Right. Then you list your board
23 certifications. You mentioned that you got board
24 certified in forensic pathology.

25 Is there any difference here when you list

1 anatomic pathology and clinical pathology?

2 A Sure. Anatomic and clinical pathology,
3 those are -- my residency was in anatomic and
4 clinical pathology and it's a four-year residency
5 and it requires 24 months each of anatomic pathology
6 and 24 months of clinical pathology. Clinical
7 pathology is laboratory medicine, all the tests that
8 are done in laboratories, hematology, immunology all
9 sorts of different things. And anatomic pathology
10 deals with human cells, tissues, organs and to the
11 performance of autopsies. So that's the main
12 distinction between those two.

13 Q Okay. And you list your memberships,
14 which I see there community service.

15 Your professional appointments, it goes on
16 for quite a bit, from the bottom of page three to
17 the top of page five. Are there any professional
18 appointments dealing specifically with sickle cell
19 disease or sickle trait?

20 A No.

21 Q Okay. Then starting on page five is your
22 workshops and seminars going into page six. Again,
23 anything here that deals specifically with sickle
24 cell disease or trait?

25 A No I don't think so.

1 Q Under teleconferences, you list two
2 teleconferences. What are teleconferences?

3 A Those were -- and they may still have
4 them, I think that they're via the Internet now --
5 but the American Society of Clinical Pathologists
6 would put on educational seminars where basically I
7 sat in a room and gave a lecture over the telephone.
8 And now it's done over the Internet.

9 Q I see.

10 A You know, to 40, 500, a hundred different
11 sites around the country where people could listen
12 and watch.

13 Q And your last one was in 1994. I take it
14 neither one of these had anything to do with sickle
15 cell disease or trait?

16 A No, they did not.

17 Q All right. And then your hospital
18 appointments, is one. That was back in New Mexico.
19 I got confused there.

20 A Oh, yeah. I see I need, I need to
21 reformat that page. There's always, there's always
22 something.

23 Q You know, lawyers will get easily
24 confused. So then the next heading is Teaching
25 Responsibilities, right?

1 A Yes.

2 Q Okay. Any difference in your associate
3 professional positions or....

4 A No, I mean there was some other --

5 Q Okay.

6 A -- place like Georgia State University. I
7 gave a couple of lectures. And there are things
8 unrelated really to forensic pathology specifically.

9 Q Okay. And obviously nothing related to
10 sickle cell disease or trait?

11 A Correct.

12 Q All right. Committees and Panels, you
13 list those. Again nothing specific to sickle cell
14 disease or sickle trait?

15 A No.

16 Q And then publications start on the bottom
17 of page seven and goes on to page ten. And I think
18 there's 50 different items. Any of those
19 publications dealing with sickle cell disease or
20 trait?

21 A No.

22 Q All right. And then at the bottom of page
23 ten, Abstracts and National Scientific Organization
24 Presentations. And just for my edification, what
25 are you calling an abstract? Is that an article?

1 A No, it's just a brief description of a
2 presentation, say published in oh, an issue of a
3 journal that lists, you know, it could be a hundred
4 different brief descriptions of things that are
5 being presented.

6 Q I see. And that goes on to page 12. Does
7 any of that have to do with sickle cell disease or
8 trait?

9 A Let me glance at it real quick. I don't
10 think so. No.

11 Q Continuing on to page 12 under the heading
12 Other Publications. Any of the Other Publications
13 dealing with sickle cell disease or trait?

14 A No.

15 Q All right. Then at the, starting on the
16 bottom of page 12 under the heading Invited
17 Presentations and Other, what are you considering
18 that to be? Is that different than the other
19 presentations that you've given?

20 A Yes. These are presentations other than
21 say. scientific organizations that I'm a member of
22 where I was invited to give lectures on a whole
23 array of different forensic medical topics.

24 Q I see. And so from page 12 to 13, 14, 15,
25 16, 17, 18, 19, 20, 21, 22, 23, through 24, do any

1 of those deal with sickle cell disease or sickle
2 cell trait?

3 A Not solely. There are, there are various
4 lectures I've given at different times regarding
5 deaths that occur in custody -- deaths in police
6 custody, law enforcement custody. And I know I've
7 mentioned sickle cell trait as, you know, something
8 that may be seen. I mean no extensive dissertation
9 on it but just a list, you know, as part of the
10 forensic medical evaluation of in-custody deaths.

11 Q Okay.

12 A You know, looking at medical conditions
13 that may result in death and sickle cell trait is,
14 you know, on that list.

15 Q But not that focuses on that?

16 A No.

17 Q Okay. And I believe that is the end of
18 your CV, correct?

19 A Yeah.

20 Q What have I have attached to it is then
21 your fee schedule. Is that part of your CV?

22 A No.

23 Q Let's go ahead and mark this as Exhibit 2.

24 (Documents were marked for

25 identification as Defendants'

1 Exhibit No. 2.)

2 Q (By Mr. Choy) And if you could take a look
3 at what's been marked as Exhibit No. 2 to your
4 deposition and identify that for the record, please.

5 A Yes. That's the fee schedule that I have.
6 It's dated 2017 but it's not, it's not changed for
7 2018. And also a W-9 from 2017.

8 Q Okay. And then your retainer is \$2500; is
9 that correct?

10 A Yes.

11 Q And then the review of materials and
12 consultation work is \$500 per hour; is that correct?

13 A Yes.

14 Q And then deposition testimony which you're
15 providing here today is \$750 per hour?

16 A Yes.

17 Q With a minimum of two hours if I did my
18 math correctly, correct?

19 A Yes, yes.

20 Q And then live courtroom testimony, is that
21 just a flat rate of \$7500 a day?

22 A Yes.

23 Q Okay. Plus expenses?

24 A Yes.

25 Q All right. Any idea how much time you

1 have in this case?

2 A I think about maybe 12 hours -- 12, 13
3 hours altogether. I brought the invoices with me
4 that I've sent and I can probably tell you from
5 those.

6 Q Okay. Do you mind if I take a look at
7 those?

8 A Thirteen, 13 hours altogether.

9 Q Let's go ahead and make that as Exhibit
10 No. 3 to your deposition.

11 (Documents were marked for
12 identification as Defendants'
13 Exhibit No. 3.)

14 Q (By Mr. Choy) And this is the invoice that
15 you sent to the law offices of G. Brian Spears; is
16 that correct?

17 A Yes.

18 Q About then you have two hours of time in
19 discussion of case with attorneys?

20 A Is that what that -- is that what that
21 says, two hours?

22 Q Yeah.

23 A Oh, yes, that was -- this is the first
24 invoice that I sent here and then this is the
25 subsequent one, yes.

1 Q Okay. So the second page is Exhibit No.
2 3, is the first invoice you sent to is Mr. Spears;
3 is that correct?

4 A Yes.

5 Q And that's for \$1500 for a total of three
6 hours discussion of case with attorney August 19,
7 2017; is that correct?

8 A Yes.

9 Q Is that the first day that you were
10 retained in this case?

11 A Retained? I mean shortly before that.

12 Q Okay.

13 A Just -- I mean at least -- I don't know --
14 well, Mr. Spears had sent me the autopsy report and
15 some information and we talked.

16 Q And then the first page of Exhibit 3, the
17 second item is review of record is the items.
18 Description is review of extensive records and that
19 was for five hours, correct?

20 A Yes.

21 Q And then the final item is written report,
22 which I'm taking is the preparation of the written
23 report which we're going to be talking about after
24 lunch.

25 A Yes.

1 Q And that's three hours to prepare that,
2 correct?

3 A Yes.

4 Q All right. Thank you sir.

5 MR. CHOY: Let's go ahead and take a lunch
6 break.

7 Q (By Mr. Choy) Dr. Sperry, we're back on
8 the record after lunch.

9 I want to talk a little bit more about
10 your consultation business. I think you told us
11 earlier today that you have had your company for, I
12 believe, 21 years or 22 years?

13 A Yeah, I should get a little sticker that
14 says 21 years, but yes, 1997.

15 Q At that time, what was the purpose of the
16 company?

17 A Really to provide a corporate entity for
18 my consulting work or income that was generated
19 outside of my employment with Fulton County and then
20 with the State.

21 Q I see. And that hasn't changed since, in
22 terms of the work you do for the company?

23 A No.

24 Q You told us earlier that that is your
25 exclusive stream of income is through that company?

1 A Yes, other than my pension from the State
2 of Georgia.

3 Q And when you say "consulting work," what
4 do you do?

5 A I review cases, the vast majority of the
6 work that I do is reviewing cases at the request of
7 attorneys. It's a mixture of criminal work mostly,
8 and on the criminal side it's mostly defense work.
9 And then reviewing cases on the civil side for
10 plaintiff and defense attorneys.

11 Most of the cases that are on the civil
12 side are medical malpractice, some wrongful death
13 cases. The majority deal with fatalities. And I
14 should say, some more kind of pure pathology issues,
15 like a misdiagnosis of a biopsy, say, missing cancer
16 or diagnosing something as cancer when it is not,
17 you know, occasional cases like that.

18 Q I see. So when you do the consulting
19 work, it's in the field of forensic pathology?

20 A Forensic pathology primarily and things
21 that deal with, you know, forensic medicine.
22 I have a lot of consults dealing with sexual
23 assaults. Areas of special interest and expertise
24 that I have cultivated over the years have been
25 child abuse, childhood injuries, sexual assault of

1 children, and also sexual assault injuries in adults
2 and the evaluation and interpretation of injuries
3 and injury patterns.

4 Q So these are individuals who are still
5 alive?

6 A Yes.

7 Q Okay. Is it fair to say that most of your
8 consulting work deals with deaths, though?

9 A Well, most -- I mean certainly more than
10 half, I would say, yeah. That's fair.

11 Q Are there any other areas that you hold
12 yourself out to be an expert in?

13 A Well, no other areas in medicine
14 specifically. I mean I'm a forensic pathologist and
15 anatomic and clinical pathologist and then, you
16 know, as far as -- we talked about this a little bit
17 just now.

18 Forensic pathology, I mentioned earlier
19 that forensic medicine deals with the interpretation
20 of injuries, in other words, how injuries are caused
21 and how injuries or medical conditions may cause or
22 contribute to death. And so there's a mixture then
23 of both, you know, living and deceased individuals
24 when it comes to the interpretation of injuries.

25 Q And that's all under the umbrella of

1 forensic pathology, though?

2 A Yes. Forensic pathology, forensic
3 medicine.

4 Q Right. You mentioned that you do work in
5 the criminal side of things and that is primarily
6 for defense or are those individuals that have been
7 accused of a crime?

8 A Well, yes, almost all of them are where
9 there's either an accusation -- usually it's some
10 kind of criminal charge of some sort or another, up
11 to and including, you know, say, an impending trial,
12 for instance.

13 Q And then on the civil side, which is the
14 case we have here today, you told us that you do
15 work both for the plaintiff and defense side; is
16 that correct?

17 A Yes.

18 Q And in this occasion you're doing work for
19 the plaintiffs, correct?

20 A Yes.

21 Q In terms of just your current case load,
22 what percentage are for plaintiffs versus defendants
23 on civil cases?

24 A I would say maybe half and half, about.

25 Q And has that ratio been about the same

1 throughout your career in consulting work?

2 A It's varied somewhat. I think prior to
3 2008 I was looking at, I would say more plaintiff
4 cases than defense cases. The best I can tell when
5 there was an economic collapse, if you will, around
6 2008, you know, I was getting less calls from
7 plaintiffs. And I would say up until -- I didn't
8 tell you this, but at least while I worked for the
9 GBI, the one thing I could not do was to review or
10 testify in criminal cases for the defense. So I
11 didn't look at any of those at all.

12 But the last few years before I retired I
13 would say I -- as far as civil cases went, which was
14 almost the majority of everything that I looked at,
15 probably three quarters were defense and a quarter
16 were plaintiff. So, you know, it's varied at
17 different times.

18 Q And how many current open civil files do
19 you have?

20 A Oh, I'm thinking to myself. Open is
21 always a nebulous term just because some things may
22 sit for two years and I don't hear about anything at
23 all, and then suddenly, you know, some momentum gets
24 gathered, probably, maybe 30 or 40.

25 Q Okay. And have you had that number of

1 cases throughout your consulting work on an annual
2 basis?

3 MR. GRAY: Just civil now.

4 Q (By Mr. Choy) Just civil?

5 A Yeah. Just civil -- well, excluding, of
6 course, like I said, when I worked for the State, I
7 did virtually no criminal work at all except, you
8 know, occasionally I would be asked by prosecution
9 in different places to look at cases.

10 But -- so civil work, yeah, probably
11 anywhere maybe from 40 to 60 open cases at a given
12 time. You know, like I said, many of those just sat
13 dormant for a long time or, you know, would be
14 resolved in some way and then I'd call someone a
15 year later and find out that it was resolved, so...

16 Q And how much do you make from consulting
17 work? This past year.

18 A This past year? I honestly really don't
19 know. You gleaned earlier that the bookkeeper for
20 Sperry Forensic Pathology Consultants is my wife,
21 and essentially what I do is sign the checks and
22 give them to her, and we haven't gotten our taxes
23 back yet. I hate to sound ignorant, but I really
24 don't know.

25 Q So you have no ballpark figure at all?

1 A I would say, it probably was last year it
2 was more than \$300,000 altogether for everything all
3 put together, but that's, you know, that's the best
4 I can tell you, really.

5 MR. GRAY: Would you be amendable to
6 giving that figure to Mr. Spears?

7 THE WITNESS: Oh, when I --

8 MR. GRAY: When you get away from here?

9 THE WITNESS: Yeah, when I can find out
10 what it's, I don't have a problem with that.

11 MR. GRAY: Okay.

12 THE WITNESS: I will just make a note to
13 do that.

14 Q (By Mr. Choy) On average was it about the
15 same amount during your career as a consultant?

16 A You mean when I was working for the State
17 you mean? No, I was really -- I made about, with
18 some pluses or minuses, about what my salary was
19 with the State. It was around between 180 and
20 \$190,000 a year approximately.

21 Q Now that you've retired, then that number
22 has gone up?

23 A Yeah, it seems to have. Doing more work
24 for the criminal defense area, so that's -- it does
25 not pay as well as the civil consultation does but I

1 enjoy it more, frankly.

2 Q And what do you do to market yourself?

3 A Nothing.

4 Q Do you have a website?

5 A No.

6 Q So throughout your consulting career, you
7 have never actively marketed yourself?

8 A No, I have never advertised, no.

9 Q So it's all word of mouth?

10 A Yes. I will say for 18 or 19 years I was
11 associated with an expert witness resource company
12 in Florida named Rieback Medical-Legal Consultants,
13 R-I-E-B-A-C-K. That's the name of the nurse that
14 runs it. And she sent me some cases to look at, I
15 mean maybe five to ten a year, something like that,
16 but I stopped looking at cases for her maybe seven
17 or eight years ago.

18 And actually I gave all those over to
19 Dr. John Eisenstat, who is the man who was -- you
20 know, took over as chief medical examiner when I
21 retired. But, you know, I turned all of Ms.
22 Rieback's stuff over to him.

23 Q Okay.

24 A And that's the only, kind of only group
25 like that I've ever had an affiliation with,

1 otherwise, it's just all word of mouth.

2 Q And that was just a referral service,
3 right?

4 A Yes.

5 Q Have you ever had a court, as far as you
6 know, disqualify you to testify as an expert?

7 A No, not as far as I know.

8 Q Okay. Or struck even just a portion of
9 any opinions you may have in a case?

10 A Not that I know of. I mean, if that has
11 happened -- that's the sort of thing that I almost
12 never would find out about anyway, but no, not that
13 I know of.

14 Q Okay. And in this case, as I understand
15 it, Mr. Spears is the one that retained you?

16 A Yes.

17 Q Have you had any occasion to work with
18 Mr. Spears before this case?

19 A A few times, yes.

20 Q A few is somewhat of an in-precise term,
21 more than three, less than five?

22 A Well, I've had cases -- yeah, because it
23 makes me think. I've had a few handful, maybe three
24 to five over the years going back many years, back
25 when I was at Fulton County in the office, I

1 remember at least one, maybe two cases that I worked
2 with him on.

3 And then when I worked for the GBI, there
4 were occasional -- I mean again, a few, maybe three,
5 four cases over all that time I was there where --
6 where he represented someone or the family of
7 someone who had died -- well, usually in jail or who
8 was incarcerated, and then I would have done the
9 autopsy and then -- so I was, you know, testifying
10 in -- or giving testimony in my official capacity,
11 and there were times where my opinions favored his,
12 you know, his perspective and other times where they
13 favored the defense.

14 I mean, again, a few, maybe three or four
15 five over the years. But I was not, you know,
16 retained as an independent expert of any sort. It
17 was just, you know, I happened to do the autopsy so
18 he was involved in one way or the other.

19 Q Sure.

20 A I will tell you, there was actually one
21 case. The director of the Georgia Bureau of
22 Investigation, Mr. Vernon Keenan, his secretary's
23 ex-husband hung himself in jail.

24 MR. GRAY: That was my case with Brian.

25 THE WITNESS: Okay, good. Well,

1 Mr. Keenan --

2 MR. GRAY: You never got to testify.

3 THE WITNESS: What's that?

4 MR. GRAY: I don't think you ever
5 testified.

6 THE WITNESS: Oh, no, no, I never did, but
7 Mr. Keenan asked me to refer his secretary to
8 an attorney to handle this -- the jail
9 suicide --

10 MR. GRAY: Nice woman.

11 THE WITNESS: Yeah, so yeah. So I called,
12 I called Mr. Spears, because I knew him and
13 this was the kind of thing -- at least my
14 understanding that he had a focus on.

15 So now you know that. That case was
16 referred directly from the Georgia Bureau of
17 Investigation Director.

18 MR. GRAY: But a good case.

19 THE WITNESS: Yeah, highly unfortunate. I
20 remember, I remember the day it happened.

21 MR. GRAY: Not perfect, but a good case.

22 THE WITNESS: Yeah, so anyway.

23 Q (By Mr. Choy) And in any of the cases
24 that you've had with Mr. Spears, did any of them
25 deal with sickle cell disease or sickle cell trait?

1 A No.

2 Q There is another attorney involved in this
3 case. Jeff Filipovits?

4 A Yes.

5 Q Have you had any dealings with him before
6 this case?

7 A No.

8 Q Okay.

9 (Documents were marked for
10 identification as Defendants'
11 Exhibit No. 4.)

12 Q (By Mr. Choy) Let's go ahead and mark as
13 an exhibit, your report, Exhibit 4. And sir, if you
14 would take a look at that and identify that for the
15 record.

16 A Sure. This is a copy of the report that I
17 wrote regarding Martez Wilson in this case.

18 Q And it's dated October 31st, 2007?

19 A '17.

20 Q I mean '17?

21 A Yes, sir.

22 Q That's post-lunch daze.

23 A I understand. That's why siestas were
24 invented.

25 Q Right. I think you told us earlier based

1 on your invoice that you believe you were retained a
2 little bit before August of 2017; is that correct?

3 A Yes, at and around early August.
4 Actually -- I mean and I have at least three, I
5 think three transmittal letters here from
6 Mr. Spears, if you want to see those.

7 Q Sure.

8 A That's what I have.

9 Q And the three transmittal letters are just
10 a listing of documents that were sent to your
11 attention; is that fair?

12 A Yes, yes.

13 Q Are these the same documents that you list
14 on the first page of your report?

15 A Yes.

16 Q And we referenced this earlier in your
17 testimony, that these are the materials that you
18 have reviewed with the exception of the re-autopsy?

19 A Yes.

20 Q And since the date of this report, you had
21 an opportunity review that autopsy, and I think you
22 testified earlier, that has had no impact on your
23 opinions?

24 A Yes.

25 Q Are there any other documents you have

1 reviewed in rendering your opinions in this case?

2 A No.

3 Q Do you anticipate reviewing any other
4 documents?

5 A I don't know of any others that exist that
6 I anticipate reviewing, and so having said that, if
7 there's that I don't know that exists, you know, I
8 can't, I can't tell you about that.

9 Q Sure.

10 A Yeah, what you don't know is what you
11 don't know.

12 Q Oh, I get that. The reason why I ask is
13 that we did take the deposition of another expert
14 that's been disclosed in this case, Robert Klaus.

15 A Okay.

16 Q Do you know that individual at all?

17 A Mr. Spears has mentioned his name, and I
18 think that he's in Ohio and he is an EMT or
19 paramedic. That's all I know about it.

20 Q Okay. So you've had no prior dealings
21 with him before?

22 A No, sir.

23 Q And you haven't had an opportunity to
24 review his deposition testimony?

25 A Oh, no.

1 Q Do you have any desire to review his
2 deposition testimony?

3 A That's a different question, having a
4 desire, I have a desire for a lot of things, but I
5 mean only from the perspective that I'm always
6 interested in what other's say and what their
7 perspectives are and not necessarily viewed with,
8 from my role as agreeing or disagreeing with what
9 they say. It's more out of, you know, intellectual
10 curiosity.

11 Q Sure.

12 A Beyond that, that's all I can really tell
13 you.

14 Q But sitting here, the fact that Mr. Klaus
15 is an EMT/paramedic expert, that would have no
16 impact on your opinions as a forensic pathologist?

17 A That's fair.

18 Q Is that a fair statement?

19 A Yes, sir.

20 Q Okay. And your report which has been
21 marked as Exhibit 4, is this the report that you
22 spent, I believe, three hours preparing?

23 A Yes.

24 Q And you prepared this report completely?

25 A Completely, myself, yes.

1 Q Has anyone assisted you at all in it?

2 A Oh, no, my habit and practice all my life
3 and career has been to sit down, after reading
4 through everything and having the records and things
5 with me, and then start typing. And I have blessed
6 that I can most of the time keep a coherence and
7 train of thought when I'm doing it.

8 Q And when you were contacted by Mr. Spears,
9 what did he ask you to do?

10 A Well, he asked me to review information
11 and records and, as I recall, first of all, he
12 wanted to know what, you know, what my opinion was
13 regarding the, then initial autopsy and the
14 conclusions of the autopsy.

15 And then secondly, to look at, based upon,
16 of course, that information, those conclusions, and
17 depending on what my conclusions were, my opinions,
18 and determine what, if any, interventions might have
19 been undertaken for Mr. Wilson that would have
20 resulted in his survival.

21 Q Anything else?

22 A I think that's basically it, I mean that's
23 I would say the main focus.

24 Q And so broadly speaking, your first
25 request was to take a look at the initial autopsy

1 that was conducted and give your opinion on, I guess
2 the validity of that autopsy?

3 A Yes, see what, what I thought about the
4 report, the testing, the conclusions, and if there
5 was anything that I disagreed with or should be
6 explored or should have been explored in more detail
7 or could be explored even, you know, a couple of
8 years later.

9 Q Sure. And as I understand it, you have no
10 criticisms of that initial autopsy?

11 A No.

12 Q Who performed that initial autopsy?

13 A It was Dr. Jacqueline Martin. She is
14 Puerto Rican so her name is pronounced Martin rather
15 than Martin.

16 Q And who is Dr. Martin with?

17 A Oh, who is she with? I'm sorry. She is
18 one of the deputy chief's medical examiners at the
19 Georgia Bureau of Investigation. I hired her when I
20 was chief -- when was that? I'm thinking somewhere
21 around maybe 2000, 2001, something like that. And a
22 few years later we put her in a deputy chief spot
23 and that's where she is today.

24 Q And so while you were at the GBI, you were
25 her supervisor?

1 A Yes.

2 Q And, in fact, you hired her?

3 A Yes. I should say the State of Georgia
4 decided to hire her, but it was my recommendation,
5 you know, I mean with all the background
6 investigation and everything that has to be done. I
7 had no role in that, but, you know, my
8 recommendation was to hire her. In fact, I
9 basically actively recruited her for, for the
10 position.

11 Q From where?

12 A She was in Syracuse, I believe, yes.

13 Q University of Syracuse or the City of
14 Syracuse?

15 A Yeah, the county that Syracuse resides in
16 has a medical examiner's office.

17 Q I see.

18 A And that's -- it's freestanding. I think
19 they have a contract arrangement with the county,
20 but I don't know much more about, about that.

21 Q Other than a professional relationship
22 with Dr. Martin, do you have any other type of
23 relationship with her?

24 A Well, I mean we know each other well and,
25 you know, just during the time that, you know, we've

1 known each other, I mean both my parents passed away
2 and her father passed away and her mother passed
3 away. I mean we just shared things like that. Her
4 office was next to mine and she had an espresso
5 machine and would oftentimes make me a cup of
6 espresso late in the day, and that was it.
7 Otherwise, no, no real social relationship.

8 Q Would you consider her a friend?

9 A Yes.

10 Q Did you socialize outside the office?

11 A No, I am just thinking, really -- no, I
12 have never been to her house. Although, when my
13 wife and I bought our house -- when was it, 2013,
14 she did come to the open house party we had and
15 brought a nice plant, but so that's about it.

16 Q Have you had any contact with Dr. Martin
17 since leaving the GBI?

18 A A couple of times I've talked to her, just
19 on a casual, you know, how are you doing sort of
20 basis. And then, and then when her mother passed
21 away, I did call, you know, to give her my
22 condolences.

23 Q All right. And then the second broad
24 category that you were requested to review was
25 liability?

1 A Yes, survivability.

2 Q Survivability?

3 A Yes.

4 Q And I just want to make sure we're clear
5 on the terminology. Survivability, is that an
6 essentially medically accepted terminology that has
7 meaning to you?

8 A Yes, I mean -- I think I, I expanded on it
9 a little bit earlier. It's just, you know, whether
10 Mr. Wilson, you know, had the probability of
11 surviving, had, you know, interventions taking
12 place, therapeutic interventions.

13 Q Okay. So that would be referred to as
14 survivability then?

15 A Yes.

16 Q Okay.

17 A The ability to have survived the event.
18 That probably has a different legal, legal meaning,
19 I imagine, I don't know.

20 Q Oh, I don't know either.

21 A Okay, good.

22 Q I was just asking you from your
23 perspective.

24 A Hey, no problem. You understand I'm not a
25 lawyer nor pretend to be, so, you know, sometimes I

1 use terms of art that, you know, that I'm not aware
2 of.

3 Q But for purposes of today's testimony at
4 least, when we refer to survivability, that's what
5 you're referring to?

6 A Yes.

7 Q All right. And as you sit here today, you
8 have no plans on amending your report?

9 A No.

10 Q Was there anything that you requested that
11 wasn't provided to you?

12 A No, I don't recall that there was
13 anything.

14 Q So you weren't asked to interview anyone?

15 A No.

16 Q You weren't asked to go out to the scene
17 of the initial arrest?

18 A No.

19 Q All that was not necessary for purposes of
20 what you were asked to do?

21 A Yes, in my opinion, yes.

22 Q In preparing this report, was it necessary
23 for you to review any information such as medical
24 journals or medical research or treatises?

25 A No, not for the purpose of preparing the

1 report.

2 Q For purposes of preparing for today's
3 deposition, have you reviewed any medical journals
4 or treatises or alike?

5 A I wouldn't say for the purposes of
6 preparing for the deposition itself. Now, I did
7 bring some articles with me that are, that I'd
8 say -- well, relatively recent from 2009, 2014,
9 maybe one's 2015, but dealing with sickle cell trait
10 and the exercise-related sickle cell --
11 exercise-related collapse in someone who has sickle
12 cell trait.

13 And I really more brought those more
14 for -- well, informational purposes, and I think in
15 your, your subpoena you sent, I can't remember
16 exactly what it said, but something about articles.
17 I just brought some with me because there isn't a
18 whole lot out there. This is, I think, reflects
19 most of what's kind of going on these days.

20 Q So in response to the subpoena that we
21 sent you, you produced or you found these articles
22 or are these articles that you already had?

23 A Oh, I mean I knew they were out there, I,
24 you know, read them at different times because it's
25 an area of interest, and -- so it was just a matter

1 of really getting them and printing them out and
2 bringing them.

3 Q And you reviewed those articles after we
4 sent the subpoena to you?

5 A Yes.

6 Q You had not reviewed those articles
7 previously?

8 A Well, you know, I had seen at least three
9 or four of them before.

10 Q If you can take those articles out of that
11 stack there and show us what you have, sir.

12 A Sure.

13 MR. GRAY: Can we just copy those so we
14 get some to read along? I want a copy of that
15 invoice, too.

16 MR. CHOY: Sure. Let me go get copies
17 made.

18 (Break was taken).

19 Q (By Mr. Choy) Dr. Sperry, while we wait
20 for copies of those articles, let me go ahead and
21 mark as an exhibit, since you referenced it, the
22 subpoena that I sent out.

23 A Sure.

24 (Documents were marked for
25 identification as Defendants'

1 Exhibit No. 5.)

2 Q (By Mr. Choy) This is Exhibit 5.

3 Sir, if you would take a look at that and
4 confirm that that's the copy of the subpoena that
5 you were referring to earlier?

6 A Yes, I think the one I have has actually a
7 separate page in there that says Exhibit A.

8 Q This Exhibit A?

9 A Well --

10 Q Oh, I see, just a couple of sheets.

11 A Exhibit A.

12 Q Okay.

13 A But otherwise, yes, I think it's the same.

14 Q And referring to Exhibit A of the subpoena
15 itself, which paragraph do you believe these
16 articles are responsive to?

17 A Let's see here. Well, sorry. Although, I
18 mean No. 11 -- I mean I already told you, they're
19 not ones that I relied upon to -- well, I guess -- I
20 guess that really is it, because the way that I read
21 this it says, you know, blah, blah, blah, "Any other
22 authorities upon which you rely to formulate or that
23 support your opinions in this case."

24 And there would be the latter half of
25 that -- of that last sentence.

1 Q Okay.

2 A Just because they support my opinions
3 regarding interventions and the efficacy of
4 interventions as far as preventing death.

5 Q Okay. So it's -- and we'll talk a little
6 bit more about it in detail, but the articles that
7 you brought here today, and I count four of them.
8 And here is your original copy back.

9 These are articles that you would say
10 support your opinions in this case?

11 A Yeah, there should be five.

12 Q Oh, sorry.

13 A There you go. Okay, good. Just --

14 Q I miscounted.

15 A So you have what I have, so... Okay.

16 Q So just to be clear, these are articles
17 that you believe support your opinions in this case,
18 and, in particular, the opinion on the therapeutic
19 intervention?

20 A Yes.

21 Q And survivability?

22 A Yes.

23 Q Okay. Any other categories that these
24 five articles you believe are responsive to?

25 A No.

1 Q I was reviewing this Exhibit A to the
2 subpoena earlier, it just sort of reminded me, in
3 terms of the cases that you've had in your
4 consultation work, whether any of them involved
5 deaths related to sickle cell disease or sickle cell
6 trait?

7 A There is one that I can recall that
8 actually where a sickle cell trait was a specific
9 issue, and it had to do with a young man who was, I
10 believe, in the Marines, if I remember correctly.
11 But he had an exercise-related sickle cell event and
12 deteriorated and then ultimately collapsed.

13 And the issue was not what is it that --
14 what it was that had caused his death, but it had to
15 do with the wife -- if I remember correctly, because
16 it has been more than a decade ago -- but the wife
17 was trying to get survivor benefits from the
18 military. And there was some issue relating to the
19 recognition of the sickle cell, his sickle cell
20 trait, which had not diagnosed prior to this event,
21 having led to his death. And then, you know, then
22 making her qualify to receive survivor benefits that
23 they had initially -- at that point in time they
24 were denying benefits because they did not view this
25 as a relevant preexisting condition. But that was

1 like over a decade ago and I doubt if that would
2 even come up today.

3 MR. GRAY: That's not on your list.

4 THE WITNESS: Oh, no, because that list,
5 you know, goes back just four years.

6 (Dr. Sperry takes a telephone call.)

7 Q (By Mr. Choy) So Doctor, my original
8 question was whether in all the cases you've handled
9 on a consultation basis, there is this one that you
10 can recall more than ten years ago that involved
11 getting death benefits from the Marines?

12 A Yes.

13 Q Okay. And that didn't even have anything
14 to do with cause of death in the sense that we
15 already knew what the cause of death was in that
16 case?

17 A Well, yes, it was, you know, determined
18 actually by an autopsy conducted by the military
19 that he had died from, you know, exercise-induced
20 complication of the sickle cell trait that had been
21 previously undiagnosed. So there really wasn't
22 anything in contention, although that became part of
23 it. I mean that oddly was the conclusion of the
24 military pathologist, but whoever it was that was,
25 had, you know, dealt with giving survivor benefits

1 was even disputing that. So...

2 Q And I want to get the terminology correct
3 and this is something that you just may have just
4 came up with, but it's exercise-induced sickle cell?

5 A Well exercise, exercise-induced collapse.

6 Q Collapse.

7 A With sickle cell trait or in patients with
8 sickle cell trait. There's an acronym, actually
9 this top article that you have really uses, which is
10 as good as anything. I think it's really useful.
11 It's ECAST, E-C-A-S-T, exercise collapse associated
12 with sickle cell trait or SCT.

13 MR. GRAY: Were these marked collectively
14 as an exhibit?

15 MR. CHOY: No, I haven't done it yet.

16 MR. GRAY: I got you.

17 MR. CHOY: Yeah.

18 Q (By Mr. Choy) So Exercise Collapsed --

19 A Exercise Collapse Associated with Sickle
20 Cell Trait, ECAST. It's kind of cumbersome.

21 Q So ECAST?

22 A ECAST.

23 Q So other than this Marine case, that's the
24 only one you've handled?

25 A Yes, that's the only one where I -- that I

1 can recall I've been involved in any litigation.

2 Q Do you have a recollection as to whether
3 in the death of this Marine, that there was any
4 therapeutic intervention done to him upon his
5 collapse?

6 A There wasn't, and I know that was a
7 separate issue. He had initially, as I recall, the
8 drill instructor thought that he was faking or
9 fainting illness and was coerced into continuing on
10 with the intense physical activity.

11 I think they were running, like a
12 five-mile run with full packs on in the heat of
13 Texas, but the drill instructor thought that the man
14 was, you know, pretending to be ill when ultimately
15 he was not.

16 Q I think my original line of questioning
17 when we took a break to get these copied was what
18 you had done to prepare for today's deposition
19 beyond bringing your file materials and you
20 mentioned these articles, is there anything else?

21 A No.

22 Q And as I take it, we'll talk a little bit
23 about this in more detail, but these articles do not
24 change any of the opinions in your case, and in
25 fact, you told us they support your opinions,

1 correct?

2 A Yes.

3 Q Turning to page 2 of your report, which
4 has been marked as Exhibit 4 to your deposition, I
5 think you told us that what your process is is to
6 review the materials that were provided to you by
7 the lawyer, and in this case Mr. Spears, and then
8 essentially summarize what you believe to be the
9 facts?

10 A Yes, that's reasonable.

11 Q And that's essentially what you did on
12 page 2 of the report, correct?

13 A Yes, that's what I tried to do, yes.

14 Q Okay. And I'm not going to go over the
15 facts with you, I mean obviously it speaks for
16 itself, but the one thing I do want to ask you is
17 that do you have an opinion as to actually when
18 Mr. Wilson stopped breathing?

19 A No.

20 Q Okay. And why is that?

21 A Well, the first time that it was ever
22 noticed that he had stopped breathing was when he
23 was in the holding cell in the detention facility
24 and the officers that had brought him there then
25 noticed that he was not breathing. So as far as --

1 I mean, so that's the first time that it was
2 noticed.

3 Now, when he actually stopped breathing, I
4 can't -- I don't know, I don't have an opinion as
5 far as that goes, although -- I mean it brings into
6 question how much he was being observed by, you
7 know, certainly the police officers, you know, who
8 were in charge of -- well, his wellbeing.

9 Q Okay. And from a, what I'm gathering is
10 from a forensic pathology standpoint, there is no
11 way of determining that?

12 A No, there is not, you know, from that
13 perspective. Now, I mean one ancillary thing that I
14 addressed in my report. The observation that was
15 made when the paramedic responded to Mr. Wilson in
16 the jail cell that rigor mortis was starting. And I
17 don't find that, that plausible.

18 Q Okay.

19 A So you know, you certainly can ask me
20 anything about that, but I went into that somewhat.

21 Q All right. And so your summary of the
22 facts on page 2 up to the top of page 3; is that
23 correct when you write that, "A WellStar Physician
24 was telephoned and advised of the situation and CPR
25 was terminated at approximately 1:39 a.m." Correct?

1 A Yes.

2 Q And then what I'm now gleaning from what
3 you told us earlier is, that first paragraph is
4 essentially what you were asked to do in terms of
5 reviewing the autopsy that was performed by
6 Dr. Martin and make a determination of whether you
7 thought it was done properly?

8 A Yeah, you are talking about the first
9 paragraph on page 3?

10 Q Yes.

11 A Yes. Yeah, it's a review of the autopsy
12 findings and, I think, mentioning to me the things
13 that were pertinent, as far as pertinent negatives
14 and pertinent positives and things of relevance.

15 Q And so the autopsy was performed by
16 Dr. Martin on March 3rd, 2015, correct?

17 A Yes.

18 Q And at that time you were still the chief
19 medical examiner for the GBI?

20 A Yes.

21 Q At that time did you have any personal
22 knowledge about this particular case?

23 A No.

24 Q And that would not have been unusual for
25 you, correct?

1 A Correct. I mean we, we handled -- I am
2 just thinking, between 150 and 200 autopsies a
3 month, and I actually don't even remember what day
4 of the week March 3rd was, but no, I would not have,
5 you know, many things I did have personal knowledge
6 of, but also many other cases I do not, and this is
7 one of that I do not.

8 Q Right. Before you were called to consult
9 on this case, did you have any knowledge about this
10 case at all?

11 A No.

12 Q And so on your report you note that the
13 autopsy review revealed scattered small superficial
14 abrasions on various body surfaces and extremities,
15 but no evidence of significant trauma; is that
16 correct?

17 A Yes.

18 Q And essentially in layperson's
19 terminology, what does that mean?

20 A That means that there's a few small little
21 scrapes on different parts of his body and his arms
22 and legs, as I recall, but there is really no severe
23 bruises. Nothing that would, you know, really to
24 kind of cut to the chase, nothing that would tell me
25 or make me concerned that he had beaten, assaulted,

1 somehow, you know, physically mistreated by, you
2 know, by someone, law enforcement officers or anyone
3 else.

4 Q Okay.

5 A But -- and I guess to kind of finish that
6 out, is that the few minor injuries that were, were
7 described and documented, are completely consistent
8 with him being on the ground and handcuffed and, you
9 know, just minor things, minor injuries associated
10 with those actions, but nothing that would cause or
11 contribute to his death or be, I would say, you
12 know, evidence of inappropriate action.

13 Q I see. And the second part of that
14 sentence is "Or a grossly apparent natural disease
15 that could account for Mr. Wilson's death."

16 And what do you mean by that? Layperson
17 terms.

18 A Sure. That means -- this is what we
19 talked about before lunch. Is that part of an
20 autopsy in any -- well, a custody death, we'll just
21 kind of restrict it to this, this, you know, general
22 topic, is to determine the presence or absence of
23 any natural disease, such as if the heart is
24 abnormally enlarged or there's a blocked artery in
25 the heart, something like that that could, in and of

1 itself, cause death or even be a contributing factor
2 to death, under stress.

3 And, you know, the same thing with, with
4 injuries, but yeah, yeah, grossly apparent natural
5 disease. So in other words, he, he didn't have, you
6 know, an abnormal heart that was, that was missed or
7 have, you know, an aneurism in his brain or
8 something like that that was unknown.

9 Q And that's why you note that all the body
10 organs were of a normal weight and configuration?

11 A Yes, that's, that's a little more sort of
12 pathological elaboration on, on, you know,
13 specifically saying there was no anatomic reason
14 that explained why Mr. Wilson was dead.

15 Q And so what I gathered from that is,
16 if you just looked at the outside appearance of
17 Mr. Wilson, there was no apparent cause of death
18 just by looking at him, correct?

19 A Oh, yes, from that perspective, just, you
20 know, if all one did was restrict themselves in
21 looking at the outside of his body, then yes, there
22 was nothing that was obviously apparent. No, you
23 know, broken neck or stab wounds or gunshot wounds
24 or, you know, severe trauma like that, no.

25 Q Then once you started performing the

1 autopsy, if you looked at his organs there would be
2 nothing from the appearance of the organs that would
3 indicate a cause of death; is that a fair statement?

4 A That is fair.

5 Q Okay. You do go on to note that the
6 cerebral cortex of the brain appeared in quotations,
7 "dusky"?

8 A Yes.

9 Q And what does that mean?

10 A That means that the, the, the covering of
11 the brain and the brain itself, I mean is, is
12 infused with, you know, millions of little blood
13 vessels. And typically at the autopsy of, of
14 somebody who dies just from most anything, the brain
15 will be rather kind of pink gray looking and the
16 blood vessels will be pink red. And when there's
17 some duskiess, that means it's more of a like
18 reddish purple kind of, kind of appearance, that's
19 an, an indicator that this could be related to
20 something interfering with blood flow to the brain.
21 And as a consequence the term we use is stagnation,
22 meaning the blood is not flowing through the blood
23 vessels and draining from the blood vessels
24 appropriately, and so there's a, you know, a color
25 change to the naked eye.

1 Q And in terms of putting sort of the puzzle
2 together, that would be one piece of indicating that
3 this could be a sickle cell trait related death,
4 correct?

5 A Exactly, yes.

6 Q And that goes back to the point you made
7 about sickle cell trait, once it becomes sickled,
8 then the blood becomes more viscous or chunkier, I
9 don't know, however you want to describe it.

10 A Yeah.

11 Q And then that's when the organs are
12 deprived of oxygen, correct?

13 A Yes. The terms that's used rheology,
14 R-H-E-O-L-O-G-Y, which is the branch of physics that
15 deals with fluid flow and fluid dynamics and
16 viscosity, and it's in a technical sense that the
17 rheology of the blood is altered because of the
18 increased viscosity and the clumping of the sickle
19 red cells, exactly.

20 Q And you mentioned this a little bit
21 earlier, but your sentence here you refer to the
22 fact that the postmortem vitreous chemistry
23 disclosed a mildly elevated sodium level; is that
24 correct?

25 A Yes.

1 Q And I have no idea what that measurement
2 that is, but you say it's 151?

3 A Yeah, milli-equivalents per liter, yes.

4 Q And you described that to be mildly
5 elevated, what does that mean?

6 A Well, the normal, you know, your -- if we
7 were to draw blood from you or me, hopefully me, I
8 hope you too, the normal sodium is about 135 to 145,
9 and the measurement, milli-equivalents, has to do
10 with the molecular weight of sodium and it's too
11 complicated to go into.

12 Q Sure.

13 A But anyhow, so that's -- like I said, the
14 normal is 135 to 145, and 151 -- oh, and also just
15 for reference purposes, sodium metabolism is very,
16 very closely monitored, if you will, by the chemical
17 receptors in your body so that people just don't get
18 elevated sodiums without a reason. And some mild --
19 a mild elevation, like I said, 151 is not anywhere
20 near enough to kill you but it indicates that there
21 is a little bit more concentration of the blood.
22 Just looking at the autopsy, the chloride and the
23 creatinine are, are normal and we cannot measure
24 potassium in the vitreous fluid of the eye because
25 it, it elevates after death in everyone.

1 Q What did you say was normal, the chlorine
2 level?

3 A The chloride level, yes. And what is
4 called the creatinine.

5 Q Okay.

6 A Those are normal. So if there were --
7 again, this just fits with very mild dehydration.

8 Q And the fact that those two readings were
9 normal, would indicate to you, what?

10 A Well, it was not dehydration of a more
11 sever consequence. If the chloride was elevated,
12 that would mean that there was more concentration of
13 the blood or another way to look at it is more water
14 depletion, thus concentrating the chloride more.
15 And the creatinine is a measurement of kidney
16 function, so if the kidneys start to be impaired,
17 then the creatinine level will go up. And it was
18 normal. So you know, at the point where he died,
19 there was no kidney impairment but there was, again,
20 just what I would call mild dehydration.

21 Q So is it fair to say that hydration played
22 no role in his death?

23 A Okay. Well, I mean I think it played -- I
24 mean what do you mean as, as far as hydration goes?

25 Q Well, I mean one thing that you mentioned

1 about sickle cell trait, the therapeutic
2 intervention is hydration?

3 A To administer fluids, yes.

4 Q And so that's why I am trying to connect
5 the dots here with respect to the vitreous chemistry
6 that you just discussed with us. Two of them are
7 normal, his sodium is just mildly elevated, so I'm
8 trying to figure out --

9 A Okay. No, I understand. I just didn't
10 understand, you know, what specifically kind of what
11 you were asking me. I mean, no, hydration played a
12 role in his, in his death. He was mildly
13 dehydrated, which is one of the features that is
14 associated with the ECAST syndrome and collapse,
15 exercise-related collapse in sickle cell trait.
16 There is -- rarely is there really sever
17 dehydration, usually it's of a relatively mild
18 nature.

19 And what one of the beliefs, as far as
20 what this does, is the dehydration -- there are --
21 because if you look at it from the perspective of
22 its depletion of, of fluids, depletion of water in
23 your bloodstream, this will increase the viscosity
24 of the blood and thus increase the propensity for
25 the blood to not flow as well through the blood

1 vessels as it should. And in someone whose red
2 cells are predisposed to sickling, this will take a
3 bad situation and make it worse.

4 So the administration of fluids is, is
5 actually done to increase, you know, in someone,
6 say, who has an exercise-related collapse and a
7 sickle cell trait, ECAST, I will just say from here
8 on out.

9 Q Right.

10 A The administration of fluids is done to
11 increase the overall profusion of blood throughout
12 the body and to reverse what, what dehydration may
13 be there, but also it then ameliorates the increased
14 viscosity and the clumping that's caused by the red
15 cells.

16 So in other words, you're restoring fluid
17 back to the normal balance, and in doing so reducing
18 the clumping and the clogging caused by the sickle
19 cells. Does that make sense?

20 Q Yes.

21 A Good, good.

22 Q And we'll talk a little bit more about
23 that. And just going to your next sentence -- and
24 we have mentioned just a little bit, but the
25 hemoglobin electrophoresis indicated a pattern that

1 was consistent with sickle cell trait, correct?

2 A Yes.

3 Q And that's where you came up, and we
4 discussed this earlier, where the S mutation, it
5 represents 40 percent?

6 A Yes.

7 Q Of Mr. Wilson's blood count; is that
8 correct?

9 A Yes.

10 Q Okay. And in the next sentence you say,
11 "Microscopic examination of heart, lung, brain,
12 kidney, liver and spleen tissues reveal that most of
13 the red blood cells were sickled in shape."

14 And we had talked about that earlier
15 saying that's expected to be seen with someone with
16 essentially ECAST?

17 A Yes.

18 Q Correct?

19 A Very good, yes.

20 Q When you say "most of the red blood
21 cells," is it now fair to say, based on our
22 discussion, that it would be roughly 40 percent of
23 the blood cells that are sickled?

24 A Well, if you were to have the ability to
25 drain all the blood out of someone and separate it

1 in such a way, I mean that's what you would, you
2 know, what you would find. It's, it's a sampling
3 issue --

4 Q Sure.

5 A Because, you know, the pieces of tissue
6 that are being looked at are about the size of my
7 thumbnail, maybe about the size of -- a little
8 smaller than your cufflinks. I like those. They're
9 pretty cool.

10 And so you're only looking at a very tiny
11 sampling of, you know, much, much larger, you know,
12 amounts of tissue. So you know, the finding of --
13 and because the clumped red cells, the sickled
14 cells, are going to, you know, lodge and, you know,
15 sort of stay in one place as a clot, it's -- they
16 will tend to stay there during the sectioning.

17 So anyway, you know, you can't really
18 extrapolate the quantity of sickled cells from
19 looking at what you see under the microscope. But
20 seeing most of them sickled and then finding the
21 hemoglobin electrophoresis results, puts it into
22 context.

23 Q Sure. And while I'm thinking about it, in
24 terms of just the mechanics of why the blood's
25 viscosity increases is because once these red blood

1 cells become sickle shaped, then do they create more
2 friction or just get hung up on each other?

3 A Well, that's, that's a good way to put it,
4 sort of getting hung up on each other. Because
5 normally, you know, red cells they're little disks
6 that are -- the surfaces are concave. You know,
7 they look like a Taurus, if you know what that's, it
8 has a thick rim but thin in the middle, and, you
9 know, however it is that God designed this, that
10 seems to be the ideal shape and morphology to go
11 through all of the blood vessels and the
12 capillaries, the tiniest ones in all of our body and
13 carry oxygen. In fact, that that configuration is
14 uniquely able to carry the maximum amount of oxygen
15 for the hemoglobin that's inside the red cells. Say
16 as opposed, if red cells were like little balls,
17 it's much more efficient, you know, it's amazing.

18 And so in any case, the sickled cells
19 they, you know, become long and curved and they're
20 also not as flexible because the normal red cells
21 will kind of bend and they can actually squeeze
22 through little capillaries by changing their shape a
23 little bit. But the sickled cells are more rigid
24 and thus they -- and when you said they hang up on
25 each other, and that's pretty much what happens.

1 They enlarge in a longitudinal way, they get hung up
2 on each other. I like that. Then they start to
3 clump and clumping -- well, stagnation is bad. Flow
4 is good. The absence or reduction in flow is bad.
5 And then this changes the viscosity and the ability
6 of the blood to flow through tubular structures.

7 Q Right. And on that note, and going back
8 to my biology days, so the capillaries are the
9 smallest part of any vessel?

10 A Yes.

11 Q Whether it's an artery or a vein?

12 A Well, capillaries are the bridge between
13 the arterial system that gradually starts when the
14 aorta gets smaller and smaller and smaller. Then
15 you have the capillaries, which are just big enough,
16 red cells have a diameter of 7.5 microns, 7.5
17 millionths of a meter. And the capillaries are just
18 about that size. And then on the other side of the
19 capillary bed, then you get the venous side. The
20 venules that, you know, basically they, they
21 start -- the blood starts going back to the heart on
22 that side.

23 So the capillaries are the bridge between
24 the arteries and the veins.

25 Q And that's the tubular structure system

1 that you mentioned where the blood is pumped through
2 the heart, goes to the arteries, has this capillary
3 system, goes back through the veins, back to the
4 heart, through the lungs, it's oxygenated, then back
5 again, right?

6 A Absolutely.

7 Q And so when you say the capillaries are
8 just slightly bigger than the diameter of a red
9 blood cell, so if there's one sickled cell red blood
10 cell in the capillary, then that capillary is
11 clogged up?

12 A Possibly, I don't know that anyone -- you
13 know, you can say that, but, you know, rarely it's
14 just one, of course, you get, you start getting
15 sickling of, you know, millions of red blood cells
16 and then they stack up on one another. And, of
17 course, all -- if all of -- if every aspect of all
18 the capillary beds in your body were all clogged,
19 meaning you really would die, everyone would die,
20 but then not everyone dies.

21 Q Sure. So I guess my question to you is
22 from a forensic pathology standpoint in reviewing
23 this autopsy, is there any way to measure the level
24 of blockage in the circulatory tubular system of
25 Mr. Wilson?

1 A No, there isn't. There is not a way to
2 measure, measure it sort of up front what -- what I
3 mean by that is that in individuals who say, survive
4 for a period of time, hours, perhaps days, you know,
5 sometimes longer, but the, the clumping, the
6 clogging of the capillaries and different organs
7 will result in damage to the tissues that should be
8 receiving oxygen from, from those groups of, of
9 blood vessels, from those groups of capillaries.

10 The term is infarction and ischemia means
11 a reduction in blood flow and oxygen perfusion to a
12 part of the tissue, and when that reduced so
13 severely, then part of the tissue dies. That's an
14 infarct. Like in a heart, myocardial infarction,
15 the heart attack, or the brain, a stroke.

16 So those, those things we will see as
17 markers of the severity and also location of where
18 the most severe blockage is, because if -- and the
19 way the capillaries are, of course, there's, you
20 know, it's like a giant net so that if capillaries,
21 say, to a heart muscle in one part are blocked, well
22 there is still circulation that's going around, you
23 know, there's alternative pathways, but if enough of
24 the circulation to an area of heart muscle is
25 blocked off and that area of heart muscle starts to

1 starve for oxygen it will die. And then you get an
2 infarction, which people like me can see if someone
3 lives long enough.

4 Q Right. But going back to my question,
5 there's no way of measuring that level of infarction
6 in all of the tissue of Mr. Wilson?

7 A No. I mean unless the infarction is
8 there. In other words, whatever may have happened
9 with him as far as tissue perfusion, if there was,
10 was any infarction that occurred or was about to
11 occur, he did not survive long enough for that to be
12 to develop and mature to the point where it could be
13 seen by a pathologist.

14 Q Is there any correlation between the level
15 of, I guess, what was that term you used other than
16 infarction?

17 A Ischemia? Infarction?

18 Q Where the capillaries in the tubular
19 systems get blocked, the level of blockage?

20 A Oh, occlusion?

21 Q Occlusion. So is there any correlation,
22 as far as you know, between that level versus
23 survivability in a sickle cell trait person who has
24 ECAST?

25 A I see. Not, not that I know of, not that

1 it's ever been characterized to that, to that
2 extent. And some of it, you know, in a loose
3 corollary, it's like real estate, the location is
4 more important than anything else. You can imagine
5 that occlusion of microcirculation to certain parts
6 of the brain would be much more significant than say
7 to parts of the liver, for instance.

8 Q And that's precisely my point. We don't
9 know that with respect to Mr. Wilson where those
10 inclusions may or may not have been in his body?

11 A Correct. Yeah, the occlusions, no, there
12 is not a way to know that with any accuracy, only
13 because, like I said, he did not survive long enough
14 for, you know, infarctions, if there were any
15 infarctions to have occurred.

16 And this, of course, just know, is, is not
17 completely related to the development of acidosis
18 and electrolyte abnormalities, which are, you know,
19 have their own particular problems.

20 Q And the reason why I'm struggling is, I'm
21 sure this is why a lot of people struggle with it,
22 and there is maybe not any science or research to
23 back this up, but we have now established that when
24 you have ECAST, then the red blood cells with this
25 S mutation are now all sickle shaped, right?

1 A A lot of them are, yes.

2 Q Yes. But again, have no way of knowing
3 where or to what extent?

4 A Well, I mean what we know is that I mean I
5 think we talked about some of this somewhat earlier.
6 I mean it involves, I mean all of your blood. And
7 essentially with the sickle cell trait you're
8 speaking of, you know, half, half of the red blood
9 cells are sickled. And then -- but, but there are
10 variables that, that still are not known.

11 I mean because having to do with, say, the degree
12 and severity of viscosity and how that relates from
13 person A to person B and the severity of expression
14 of, you know, the symptoms of a sickling event.
15 You know those are -- and then the degree and
16 severity of acidosis, for instance, and skeletal
17 muscle damage and release of muscle proteins, you
18 know, there is, there is a lot of different
19 variables that just can't be, you know, they're not
20 the same from one person to the next.

21 Q And is there, as far as you know, a
22 correlation between those variables that you
23 outlined and survivability?

24 A I don't know of any correlation that is,
25 that's -- that's been -- I would say, you know,

1 outlined in any definitive way. I mean these are
2 all thrown out, if you will, I mean outlined, like
3 these are all the different variables that exist and
4 that's about to the extent of it.

5 But, you know, being able to correlate those, even
6 identify those in every, every patient, say, and
7 then correlate those with survivability, I don't
8 know of anyone, you know, there's been any ability
9 to do that.

10 Q So there's no peer review study on that
11 particular mechanism?

12 A No, no.

13 Q Going back to your report on page 3, that
14 first full paragraph, then you note that there's no
15 ethanol detected, which means there is no alcohol in
16 his system?

17 A Yes.

18 Q But the blood did test positive for THC,
19 which is active marijuana metabolites; is that
20 correct?

21 A Yes.

22 Q I'm not sure what that level is, what is
23 40 --

24 A 40 nanograms per milliliter?

25 Q Yes.

1 A That's consistent with him having smoked
2 some marijuana probably within maybe 60 to 90
3 minutes prior to, to when he died.

4 Q Then you note, "The cause of death was
5 ascribed by Dr. Martin to be exercise-induced sickle
6 cell crisis in an individual with sickle cell
7 trait."

8 Which we've been calling essentially
9 ECAST?

10 A Yes.

11 Q Okay. And that you are in agreement with
12 the autopsy findings and conclusions, correct?

13 A Yes. You did a good job. Makes me proud.

14 Q I'm trying to keep up with you.

15 And then the second autopsy that you've
16 had the benefit of looking at, is that pretty much
17 the same conclusions?

18 A Well, not entirely. Let me find it here.
19 Conclusions -- well, the, the cause of death was
20 called asphyxia due to sickle cell crisis due to a
21 sickle cell trait with a contributory factor of
22 stress. It's awfully vague. I would not have
23 considered this to be an asphyxial death.

24 Q Okay.

25 A I think that's, that's incorrect.

1 And also Dr. Ross, who I'll say I don't
2 know her personally. I've never met her. She also,
3 she described what she called borderline
4 cardiomegaly. And her, when she weighed the heart
5 she weighed it at 435 grams, which is very weird
6 because Dr. Martin weighed the heart, I believe at
7 320 grams, which is completely normal.

8 I can tell you, the scales at the GBI are,
9 you know, certified as being accurate about four
10 times a year. And also something that was, although
11 oddly Dr. Ross never describes it, the body and the
12 organs had been embalmed. And I know that because
13 there was nothing, although it was detected in the
14 toxicology studies that were done for the liver.
15 So, but anyway, I, I think Dr. Ross is wrong in the
16 weight of her heart. I would trust Dr. Martin,
17 quite honestly.

18 Q Okay.

19 A And especially in such a wide difference,
20 that kind of makes no sense to me. So anyway,
21 that's, that's my take on the second autopsy.

22 MR. CHOY: Off the record just for a
23 moment.

24 (Break was taken).

25 Q (By Mr. Choy) We're focused on still page

1 3 and I'm moving on to the next paragraph, and I'm
2 looking at this and essentially it appears that
3 you're writing here a lot about what we talked about
4 in terms of what happens with an individual with
5 ECAST?

6 A Yes. I agree.

7 Q And then you note here -- you talked about
8 the systemic acidosis lowering of the blood PH.

9 A Yes.

10 Q "And the increase in lactic acid produced
11 by the muscular exertion are thought to initiate the
12 red cells within the blood that contain a high
13 percentage of the S mutated hemoglobin."

14 Correct?

15 A Yes.

16 Q When you say "are thought," are you saying
17 that what we talked about earlier, that people
18 really don't -- or we don't really know the
19 triggering mechanism?

20 A Well, as far as really knowing and what is
21 believed to be, I mean those are kind of two
22 different things, and there are -- there's a school
23 of thought, albeit in the minority, distinct
24 minority, which maintains that it is possible that
25 some other physiologic mechanism is at work. That

1 is just unknown, but -- and then the sickling that
2 is found at the autopsy, which is the only way that
3 this can be truly diagnosed in these situations, is
4 a -- is actually a postmortem phenomena.

5 But as I said, that's -- and I think that'
6 comes from -- well, there's -- well, there's all
7 these people that, you know, pick up on their own
8 theories about things, but that's something, you
9 know, can you say that that is not the case? Well,
10 no. But is that the state of current thought and
11 belief? I would say no to that also.

12 But some people, you know, at least
13 they've thrown that out just to emphasize the
14 imprecision involved in some of this.

15 Q And in terms of the acidosis, there is no
16 way of measuring that postmortem, is there?

17 A No, no there's not, correct.

18 Q Okay. And that's why we don't know that
19 with respect to Mr. Wilson?

20 A Correct. Well, a lactic acid level could
21 have been drawn, because lactic acid is, is stable
22 after death, but that was not done.

23 Q Is it typical to do the lactic acid test?

24 A Not as part of an autopsy. I think most,
25 most people don't think of that particularly. And

1 also with, you know -- really, defining everything
2 that we have talked about so far, as far as making
3 the autopsy diagnosis, doesn't require a, a, you
4 know, a lactic acid determination one way or the
5 other.

6 Q In determining survivability, is it
7 beneficial to know the lactic acid level of
8 Mr. Wilson?

9 A Not that I'm aware of.

10 Q Okay. Would you consider yourself an
11 expert in the diagnosis of ECAST in an individual?

12 A No. No. That's a, you know, a clinical
13 diagnosis. I mean from a -- I guess I would
14 consider myself an expert of the pathologic
15 diagnosis of, you know, of ECAST, but as far as the
16 clinical diagnosis, no.

17 Q Okay. And just so the record is clear,
18 when we say clinical, we're talking about while the
19 individual is still alive?

20 A Well, at the time. I was thinking a
21 little bit more as you -- about what you had asked.
22 And ECAST specifically is rarely, if ever, a,
23 clinical diagnosis at and around the time of the
24 event. I mean it is, you know, an exercise-related
25 collapse, if you will, in fact, that's exactly what

1 it's. An exercise-related collapse, an
2 exercise-related, you know, manifestation of various
3 signs and symptoms. And ascribing the collapse or
4 the evolution of signs and symptoms to sickle cell
5 trait would be part of the differential, as far as,
6 you know, why did, you know, this young soldier
7 start having trouble breathing and then collapsed,
8 and, you know, or manifest all of these things.

9 And one of the reasons for that certainly
10 is the sickle cell trait, but that's -- at the time
11 when this occurs, this type of event occurs, the
12 ability to specifically say, well, this is
13 heatstroke versus a cardiac arrhythmia from an
14 underlying undiagnosed heart disease or sickle cell
15 trait, you know, that, that's not there. That
16 different -- that specific differentiation can't be
17 made.

18 Q Right. Moving on down in the paragraph on
19 page 3, you note here that, "As the manifestations
20 of a sickle cell trait occur almost exclusively in
21 individuals of African-American ancestry" -- let's
22 just stop there.

23 A Sure.

24 Q How are you defining African-American
25 ancestry?

1 A Well, someone who has -- and actually it's
2 been, been genetically looked at from population
3 genetics and molecular biology, there is something,
4 I think four separate subtypes of the hemoglobin,
5 hemoglobin S mutation that are associated with
6 different areas of Sub-Saharan in Africa and -- I'm
7 blanking on the others, but there are different
8 regions in Africa where those have all originated
9 from, and -- so someone who has to have, you know,
10 at least some ancestry.

11 Now, I don't -- I'm not aware of the, say,
12 percentage, I mean like you see the ads on TV for
13 23andMe where someone says, you know, I'm 12 percent
14 Norwegian or something like that, I am not aware of
15 that that degree of, of statistical breakdowns has
16 ever been, you know, ever been shown, at least -- I
17 mean in the broadest sense, someone has to have some
18 African ancestry of different -- from different
19 regions in order to have the SG mutation.

20 And So what degree of penetrance, that
21 would be -- because it's harder to say. Because I
22 think you can see if someone has the sickle cell
23 trait, that means half of their genes are normal and
24 the other half has, you know, a point mutation on
25 one chromosome. So the next generation may be 25

1 percent of -- you know, there would be, say, a one
2 in four chance of having the mutation but the other
3 75 percent of the red cells are normal. And as the
4 percentage of S hemoglobin decreases, then the
5 possibility or probability of ever having, you know,
6 a problem with sickle cell trait diminishes as well.

7 Q Just in practical terms, though, when you
8 say "African-American ancestry," obviously you don't
9 have the ability when you meet somebody to peer into
10 their DNA or make a determination about their DNA
11 ancestry from Africa or Sub-Saharan in Africa,
12 correct?

13 A Correct, but just an easier way to look at
14 it is that 8 percent of, of individuals in the world
15 who are, you know, who have African ancestry and
16 appear to be African, you know, in their, you know,
17 physical appearance and their skin color, 8 percent
18 are sickle cell trait carriers or 8 percent have the
19 sickle cell trait gene.

20 Q Okay. And you anticipated my next line of
21 questioning.

22 So assuming that somebody is identified or
23 identifies as being African-American, there is
24 statistically an 8 percent chance that that
25 individual would be a sickle cell trait?

1 A Yes.

2 Q Okay. Is there a percentage that you're
3 aware of for individuals with sickle cell disease?

4 A It's much smaller than that, I'm blanking
5 on the number, I think it's about .01 percent -- no,
6 no, no, about .05 percent. So it would be five out
7 of 10,000.

8 Q So much lower?

9 A Yes, who have the actual sickle cell
10 disease itself, the HBSS gene, gene combination.

11 Q And when did you learn about these
12 statistics about 8 percent of the population, in
13 preparation for today's deposition?

14 A That's been known for years, you know,
15 it's -- that, you know, that's -- there's nothing
16 new about that. Decades.

17 Q Well, I appreciate that piece.

18 A Sure.

19 Q I'm just trying to figure out when you
20 knew about the 8 percent?

21 A Well, I mean when I was in medical school.
22 I think it was actually, if I remember correctly,
23 sickle cell trait was first really identified in
24 the, in the early '70s, and I mean I know I learned
25 about it in medical school, because I remember -- I

1 don't want to bore you with war stories. I remember
2 distinctly some sickle cell disease patients that I
3 was involved in treating when I was medical school,
4 and that's when, you know, everything about sickle
5 cell disease and sickle cell trait and all this was
6 taught to me and some things stuck.

7 Q Okay. So assuming that an individual is
8 identified as being African-American, statistically
9 there is an 8 percent chance of sickle cell trait?

10 A Yes.

11 Q Okay. Going on to your report you go on
12 to say, "Complaints of inability to breathe with or
13 without manifestations of abnormal mental acuity and
14 behavior, should be reasonably suspected to be
15 caused by a sickle cell trait crisis until proven
16 otherwise."

17 What do you mean by that?

18 A That means in an otherwise healthy
19 individual who appears to be African-American, then
20 that if someone especially then skewing towards a
21 younger population as well, that, so you know,
22 complaints of inability to breathe or difficulty
23 breathing, sickle cell trait must be on the
24 differential because it's, you know, it's real and
25 it happens.

1 As, you know, as people get older,
2 although the sickle cell trait can first manifest
3 itself, if it even does, at almost any age, but you
4 know, as we as human beings get older we start
5 having heart disease and lung disease and various
6 other problems that are more probably -- that a
7 complaint of shortness of breath or difficulty
8 breathing is much more reliably ascribed to those
9 particular diseases.

10 But having said all of that, you know,
11 sickle cell trait, you know, is known and exist and
12 it's out there and 8 percent of the population of
13 African-American individuals in this country are
14 sickle cell trait or have the sickle cell trait.
15 So you can't ever exclude it completely.

16 You know, the circumstances, I would say,
17 and the age of the individual help a great deal in,
18 at least bringing sickle cell trait to the forefront
19 as part of the differential.

20 Q Okay. And this is where I'm coming from
21 because my clients are the paramedics and the EMT
22 that arrived on the scene, and you have not been
23 disclosed as an expert in the field of paramedic or
24 EMTs, correct?

25 A Correct. Well, I don't think I have been.

1 I'm not holding myself out as.

2 Q And you're not holding yourself out to be
3 an expert in the field of paramedics or EMTs,
4 correct?

5 A Correct.

6 Q And so am I to gather from your statement
7 in your report, are you saying you're criticizing my
8 clients for not diagnosing Mr. Wilson as sickle cell
9 trait out in the field?

10 A No, no. Because no one could, I would say
11 make that diagnosis and be conclusive about it. Now
12 having that on differential list is -- well, not
13 only reasonable, I would, I would expect it to be
14 there. And looking at the overall complaints of
15 Mr. Wilson, that is that he can't breathe and he
16 repeated it multiple times, and then he stopped
17 responding to questions and did not give anymore
18 verbal, verbal answers of any sort, those are
19 manifestations, you know, that could be, could be
20 many things, but of which sickle cell train is one
21 of them.

22 So I would not expect anyone to render
23 that diagnosis there in the field. It's more in the
24 global perspective of, you know, what medical
25 problems is he having and then what should be done.

1 Q So as I understand, you're not saying
2 that -- you're not criticizing my clients for not
3 making that actual diagnosis, correct?

4 A No, for not making that diagnosis, no, no.

5 Q I mean because we have already established
6 in order to confirm diagnosis of sickle cell trait,
7 you need lab work, correct?

8 A Correct, yes.

9 Q What, if hear you correctly, what you're
10 saying is that in the field paramedics/EMTs, should
11 consider sickle cell trait to be part of a potential
12 diagnosis for purposes of differential diagnosis?

13 A Well, for purposes of differential
14 diagnosis, and also, you know, in providing
15 treatment, administration of oxygen and
16 administration of fluids, which is appropriate in
17 virtually any setting where someone is say, you
18 know, complaining of -- saying that I can't breathe,
19 complaining of trouble breathing. No, to my
20 knowledge, no mistake will ever be made if you give
21 someone oxygen. And the same thing with intravenous
22 fluids, it's, you know, so that's where, that's
23 where I'm coming from.

24 Q So what you're saying is that essentially,
25 regardless of whether even sickle cell trait was on

1 the possible spectrum for differential diagnosis
2 purposes, what you're saying is that my client
3 should have given him oxygen and fluids?

4 A Yes.

5 Q Or made the determination to take him to a
6 hospital?

7 A Yes.

8 Q Okay. So when you say that the initial
9 treatment for a suspected crisis is primarily
10 support through the administration of oxygen and a
11 provision of fluid in order to restore tissue and
12 organ perfusion and oxygenation and prevent further
13 damage and possible death, correct?

14 A Yes.

15 Q Okay. So regardless of whether they
16 suspected sickle cell trait or not, you're just
17 saying based on the symptoms that Mr. Wilson was
18 presenting at the scene, this is what should have
19 been done from the perspective of a forensic
20 pathologist; is that fair?

21 A Yes, to, you know, provide intervention
22 and ameliorate the physiologic problems that were
23 going on.

24 Q Okay. And when you say "fluid," what
25 fluid in particular are you talking about?

1 A A as far as what type of intravenous
2 fluid, I don't -- I don't know that there's any
3 specific recommendation that I'm aware of. But, you
4 know, to my knowledge nothing esoteric, I mean
5 Ringer's lactate or a quart of normal saline. Even
6 normal saline. Because the goal is really to
7 replete the, the water balance, restore the water
8 balance in the blood and decrease the viscosity, so
9 the administration of any fluid will have that
10 effect.

11 Q So --

12 A Any standard IV fluid, I should say.

13 Q And so do you know what is carried by
14 paramedics and EMT of the Douglas County EMS?

15 A No, I can't tell you what, what they
16 carry.

17 Q Okay. And so whatever they carry in terms
18 of fluids, you're saying is there a certain rate
19 that should have been given to Mr. Wilson?

20 A I'm not aware of a certain rate,
21 particularly, although it's, if an IV is put in,
22 then there's -- running at say 125 ccs an hour,
23 something like that, I mean if you're going to put
24 an IV into someone other than for medication
25 administration, a route in which, you know, a way to

1 give drugs intravenously, then, you know, a standard
2 rate is 100 to 125 ccs an hour.

3 Q Okay. And you recommend that because the
4 thought process would be if it was sickle cell
5 trait, you would then increase the viscosity of the
6 blood?

7 A The sickle cell trait would, yes, so
8 giving fluid is meant to -- you will sort of dilute
9 the blood and decrease the viscosity and enhance the
10 ability of the blood to flow through the blood
11 vessels.

12 Q At least that's the hope?

13 A Yes, that, you know, at least is the
14 purpose, at least, to counteract the, you know, the
15 dehydration that accompanies these cases.

16 Q And then that goes back to my original
17 question when we were talking about the dehydration
18 level. There appeared to be very mild or mild
19 dehydration of Mr. Wilson at the time he made
20 contact with my clients?

21 A Yes, yes, I would say, at least from, from
22 a laboratory perspective, I would consider it to be
23 mild. But, you know, from a physiologic
24 perspective, say, depletion -- say shift of 10
25 percent of loss of free water in your blood will not

1 produce any measurable abnormality in serum
2 electrolytes. But when it gets between 10 and 20
3 percent, then things like elevation of sodium, as in
4 this case, begin to be seen. So there's it's a, I
5 mean there's a quantitative aspect to this.

6 Q All right. And then in terms of the
7 oxygenation that is, the thought is to then provide
8 him pure oxygen?

9 A Yes.

10 Q Okay. And again at what levels?

11 A I don't, I don't have a recommendation
12 particularly, I mean.

13 Q And so hypothetically if my clients had
14 started a fluid and oxygenation and Mr. Wilson died
15 there, then you would have no criticisms?

16 A Okay. I am just thinking and, yeah, I
17 think that's reasonable. If, if he had been
18 provided oxygen and intravenous fluid and still, you
19 know, went on to die there, then I don't think -- I
20 don't know that I would have any -- the only other
21 aspect is if -- I mean putting a cardiac monitor on
22 him and an AED machine just to shock him if
23 necessary. But, you know, that's if he was -- if
24 the determination was made that Mr. Wilson was, was
25 in extremis, then that would, I would say

1 automatically be done, just to put a cardiac monitor
2 on him too, because if you don't have a monitor you
3 don't know what's going on.

4 Q So if they had done those three things,
5 then you would have not criticism of even if
6 Mr. Wilson had died?

7 A I think so, yes. I think that's fair,
8 because what that tells me that they would have
9 recognized that he was, you know, that his
10 complaints were real and that he was truly having a
11 profound medical problem of which, you know -- well,
12 administration of oxygen, fluids and the utilization
13 of a cardiac monitor that is part of an AED machine,
14 those are the, you know, initial emergency
15 treatments that are -- the interventions that are
16 done, you know, before you can get someone to the
17 hospital.

18 Q Okay. Moving on to page 4 of your report.
19 You say, "Ultimately by the time EMS had contact
20 with Wilson, he was completely nonresponsive."

21 Where are you getting that from?

22 A Well, he did not respond to give answers
23 to any questions, he didn't make any responsiveness,
24 you know, any verbal response.

25 Q Verbal response?

1 A Yes, that's what I'm trying, you know, if
2 I was inarticulate in that, that's what I'm trying
3 to say. There was no verbal response to anything.

4 Q That's why I want to clarify it. You're
5 not saying that he was unconscious?

6 A Oh, no, no. That's a good clarification.
7 Thank you.

8 MR. SPEARS: Excuse me, Sun, where were
9 you just reading from?

10 MR. CHOY: The last sentence of the first
11 full paragraph on page 4.

12 THE WITNESS: At the top there, the six
13 line one, five line.

14 MR. SPEARS: Thank you.

15 Q (By Mr. Choy) All right. Moving on to
16 the next paragraph, you're talking about the
17 discrepancy between the observations of Officer
18 Smith and Mr. Porterfield with respect to pulse
19 rate?

20 A Yes.

21 Q Okay. And what is your take on that, your
22 criticism, if any? You said it's just highly
23 irregular?

24 A Where are you? Okay. Good.

25 Q So you're criticizing my client for not

1 putting things down in writing; is that your point?

2 A Yes, that's what I am saying, that it was
3 not memorialized, you know. In other words, there
4 was no, no written record of anything, which is very
5 unusual.

6 Q Until after the fact?

7 A Well, until, I mean, afterwards and he --
8 several weeks later he wrote the statement that he
9 wrote, but at least at the time there was nothing,
10 you know, that even showed they had been there.

11 Q Right. And this is again, your summary of
12 the facts as you understood them based on your
13 review of the documents?

14 A Yes.

15 Q Videos, audio, correct?

16 A Yes, sir.

17 Q Okay. Then the next paragraph, again,
18 it's a continuation of your summary of the facts and
19 then essentially you're creating a timeline saying
20 that EMS was on the scene for approximately seven
21 minutes; is that correct?

22 A Yes.

23 Q And then the entire time span between the
24 first time EMS arrived and the call to EMS at the
25 jail was approximately 37 minutes?

1 A Yes.

2 Q An so what we know is that within, if
3 those times are accurate, within those 37 minutes is
4 when Mr. Wilson died?

5 A Yes.

6 Q And we established earlier in your
7 testimony that there is no way forensically of
8 determining exactly when Mr. Wilson died?

9 A Correct.

10 Q Okay. Hypothetically, based on that, it
11 could have been any point from the time my clients
12 left the scene to the time that the call was made
13 from the jail?

14 A Hypothetically, yes.

15 Q Okay. Then you continue on, and then
16 you've already referenced this in your testimony,
17 that you believe that the characterization of rigor
18 mortis setting in is not plausible?

19 A Yes.

20 Q Unless Mr. Wilson died in the back of the
21 patrol car?

22 A Yes, and even then I think it still would
23 be unlikely, I mean that this observation or
24 conclusion that rigor mortis was present, still
25 would be, you know, highly irregular.

1 Q Does the fact that someone has died from
2 ECAST, does that effect at all the rigor mortis
3 rate?

4 A No, not that I'm aware of at all.

5 Q Okay. I'm moving on to the last paragraph
6 of page 4 of your report and you note that, "It is
7 my opinion to a reasonable degree of medical
8 certainty, that if Marquez Wilson had been properly
9 supplied with oxygen and fluids at the site of his
10 arrest by the responding medical personnel, that
11 more probable than not he would have survived"?

12 A Yes.

13 Q In the field of forensic pathology, is
14 there an accepted definition for "within a
15 reasonable degree of medical certainty"?

16 A It depends on the context. I mean in this
17 context it would be more probable than not.

18 Q Okay.

19 A You know, in dealing with things, I mean
20 determining something is a homicide, the rate of
21 certainty is considered to be at least 95 percent,
22 if not more. That's something that's, you know,
23 outside of my area, no one ever really gets into.

24 Q And so if I understand your testimony, at
25 least in this context, the way you would define

1 reasonable degree of medical certainty, is more
2 probable than not?

3 A Yes.

4 Q And that is way later in that sentence you
5 write, "More probable than not he would have
6 survived"?

7 A Correct.

8 Q And what is the factual basis for that
9 opinion, sir?

10 A Well, the factual basis is that the --
11 what has been seen in the last several years is that
12 the utilization of intervention, and we've talked
13 about this several times, that is administration of
14 oxygen and intervenous fluids, has as an early
15 treatment has reduced the known mortality of ECAST
16 down almost to zero.

17 And certainly in the populations, the
18 military population, which as we have talked about,
19 is most closely monitored and I would say regulated,
20 if you will. I know that's not probably not even a
21 good word, but much more attention is paid to
22 soldiers because everyone is accounted for and they,
23 you know, monitor this.

24 And so it's -- so what at least is known
25 is that although the mechanism by which the ECAST

1 occurs, you know, it's not defined as well as really
2 everyone would like it to be. Nonetheless, the use
3 of these interventions in someone who has ultimately
4 shown to have ECAST, besides other different things,
5 you know, other different medical, medical problems
6 that may present with the same signs and symptoms
7 that the people just don't die.

8 Q There is a lot to unpack there. We talked
9 about the therapeutic intervention earlier, that's
10 what we called it, right?

11 A Yes.

12 Q And the therapeutic intervention consist
13 of the fluids and oxygen that we discussed, correct?

14 A Yes.

15 Q And what you're telling us is that based
16 on studies and if there is early therapeutic
17 intervention, the studies show that individuals with
18 ECAST, there is nearly 100 percent survivability
19 rate?

20 A Well, no, that the -- at least the -- you
21 know, because there is no real studies yet, but it's
22 based upon monitoring -- I mean looking at deaths
23 that have occurred -- again, using the military,
24 that's like the largest monitored population that
25 really can be, can be looked at. That's where most

1 of this information comes from.

2 And let me refer you, looking at the
3 article, it's the top you have in the stack there.

4 Q Sure. And then just before we do that,
5 and just because I had written down here, and maybe
6 I didn't write it down correctly, you said that
7 reduce mortality to almost zero?

8 A There have not, you know, deaths have
9 dropped, have gone away in the military population.

10 Q In the military population?

11 A Yes.

12 Q Okay. And then this is from one of the
13 articles that you had provided us, one of the five,
14 is that where you're getting that information from?

15 A Yes.

16 Q And which one are you referring to, sir?

17 A The one that's on top there.

18 Q Okay. For the record, let's go ahead and
19 mark this as Exhibit 6.

20 MR. GRAY: Which one is this?

21 (Documents were marked for
22 identification as Defendants'
23 Exhibit No. 6.)

24 Q (By Mr. Choy) Sir, for the record, if you
25 can identify what has been marked as Exhibit 6 to

1 your deposition.

2 A Sure. This is called A-C-S-M and
3 C-H-A-M-P Summit on Sickle Cell Trait, Mitigating
4 Risk for Warfighters and Athletes.

5 Q Let's go ahead and put this on your copy.
6 All right. And this is the military study that you
7 were referencing, sir?

8 A Yes.

9 Q And what is, and just sort of quickly try
10 and go through the abstract, what is your
11 understanding of what this study tried to
12 accomplish?

13 A Well, it was a, a very big collaborative
14 study with a whole bunch of different people that
15 were really trying to define ECAST, and develop
16 interventional strategies and then also develop
17 possible research guidelines and parameters for the
18 future and things to, you know, that needed to be
19 researched, if at all possible, to just obtain,
20 develop much more information regarding the etiology
21 of ECAST.

22 Q Okay. And I'm just flipping through it.
23 I see, "ECAST Controversies. To what extent do red
24 blood cells sickled during exercise."

25 And that's one of the controversies?

1 A Well, yes, that's, that's, again, a
2 question that, you know, is not really known as well
3 as it would be desired to be known.

4 Q And then another controversy apparently
5 is, "ECAST and sickling, culprit or a postmortem
6 event."

7 A Yeah.

8 Q Are they theorizing that it can just
9 happen after death?

10 A I mentioned that earlier, I said there
11 are, there are some people who at least have brought
12 that up as a, you know, as a hypothesis, although
13 that does not -- does not appear to be -- that's
14 certainly not a majority of belief, but this was,
15 you know, kind of, I would stay a wide open kind of
16 group discussion to really identify as many things
17 that are known and as many things that are unknown
18 and routes for possible research as they could.

19 Q Okay. And so there's still a debate or
20 issue in the medical community as to whether the
21 sickling of the red blood cells occur after death?

22 A Well, as I said just a couple of times,
23 there are a few people who have brought that up as
24 sort of like well, what if.

25 Q I see.

1 A But without any real basis for that, you
2 know, but they, you know, if you're going to offer
3 that up, then to me it, it helps a great deal if you
4 say give out your own hypothesis about what is
5 happening, but it, it really doesn't do anything to
6 help clarify.

7 Q And then you were going to refer us to
8 something in this article that would support
9 essentially your survivability opinion, correct?

10 A Yes. And this is on -- it's page 2052,
11 it's a -- this is an algorithm, and perhaps you're
12 looking at that. And that really is a very nice
13 summation of treating ECAST events and anything that
14 may be ECAST. I mean it says up at the top on the
15 right under "Emergent Management of WA," which means
16 warfighters/athletes with ECAST. "No evidence-based
17 guidelines for managing an ECAST event are currently
18 available."

19 Q What does that mean?

20 A That means that evidence-based means
21 taking known specific regimens of treatment and
22 comparing, say, regimen A with regimen B to see how
23 the outcome is influenced. And then based -- if one
24 clearly shows a better outcome than the other, then
25 that is, provides evidence, in other words, medical

1 evidence that treatment protocol A is better than
2 treatment protocol B.

3 Q So are there competing protocols for how
4 to respond to ECAST assuming that someone
5 understands that somebody is suffering from ECAST?

6 A I don't know of any specific protocols,
7 because this is the -- the next sentence in that
8 same paragraph. "However, contemporary best
9 practice for WA, and that's warfighters/athletes,
10 with suspected ECAST should follow a, quote, chain
11 of survival, unquote, and prompt execution of an
12 effective emergency action plan emphasizing rapid
13 recognition and early intervention as outlined in
14 figure 1."

15 Which is the algorithm that's down below.

16 Q Okay.

17 A And that's, you know, that really I think
18 succinctly describes the state of where early
19 interventional treatment lies today.

20 Q Okay. And this was at least in some ways,
21 so you can argue limited to data from warfighters
22 and athletes, correct?

23 A Well, yes, just because those are the
24 populations that there's, there's the most evidence
25 from or the most background information that occurs,

1 or that can be gleaned, I'm trying to say. I'm
2 being inarticulate, I'm sorry.

3 Q And then obviously you would agree with me
4 that the situation with Mr. Wilson was not involving
5 a warfighter or an athlete, correct?

6 A Correct, it was not in either, either of
7 those circumstantial contexts.

8 Q Okay. So I haven't had a chance to look
9 at your flow chart, but does it say anywhere in here
10 that the, a prompt provision of fluids and oxygen
11 would result in a reduced mortality to almost zero?

12 A No, it doesn't say that specifically. The
13 indirect inference is that, you know, with the
14 initiation of this flow chart, this protocol, you
15 know, in and certainly the situations, especially
16 the military, but where this has been, I would say,
17 most closely studied, the mortality from -- or
18 mortality in individuals with ECAST has, you know,
19 been reduced, I mean just people are not dying, I
20 guess is the best way to look at it.

21 Q But in terms of this article, it does not
22 conclude that providing fluids and oxygen would
23 reduce mortality to zero, to almost zero?

24 A No, there's not enough information to be
25 able to say that specifically, only that

1 implementation of this protocol, the result has been
2 that there has been no mortality, you know, in the
3 military studies that have been done.

4 Q And so is there any -- where it indicates
5 that it would reduce it to 40 percent or 50 percent?

6 A No, there's just not enough information,
7 you know, available, up to this point, you know, to
8 be able to say that. Except that, you know, the
9 indirect evidence that people are not dying and --
10 well, that speaks to how that this is having an
11 effect on survivability.

12 Q Okay. I'll study this article some
13 more --

14 A Sure.

15 Q -- but I suspect that you're not sitting
16 here telling us that in every situation, either in
17 the military context or the athletic context, that
18 once fluids and oxygen are provided that each of
19 those individuals have survived, you're not telling
20 us that, are you?

21 A No, I'm not.

22 Q And you would concede that in those
23 circumstances, even with the prompt provision of
24 fluids and oxygen, those individuals have died, gone
25 on to die?

1 A Well, there probably are, at least, you
2 know, in the large population that was looked at
3 here, the deaths stopped. So -- but to say that,
4 you know, that that is the same in every situation
5 and every occurrence, you know, that all deaths
6 would be prevented, no, I would never -- I cannot
7 say that, I'm not sure that anyone could.

8 Q Sure. And then in the other four articles
9 that you have provided us, there's nothing in those
10 articles would then support exactly what we're
11 talking about here, to say the prompt providing of
12 fluids and oxygen would result in survival?

13 A Yeah, I don't know recall if there are
14 those specifically, although this particular one
15 that we have been talking about was published in
16 2012, and there are -- and the ones -- the articles
17 that -- some of these articles are like from 2014
18 and actually make reference to the -- this
19 particular -- I mean this particular algorithm and
20 the protocols and supporting that it, you know, this
21 should be done.

22 Q So let's just go ahead and mark as a
23 collective, Exhibit 7 to your deposition, your
24 remaining four articles.

25 A Sure. Oh, I mean do whatever you wish.

1 Do you want -- I mean you marked the original one
2 that I brought as 6, is that -- do you want the
3 others then marked as 7?

4 MR. GRAY: Let's say 7 A, B and C and D.

5 THE WITNESS: A, B, C, D?

6 (Documents were marked for
7 identification as Defendants'
8 Exhibit No. 7A, 7B, 7C, 7D.)

9 Q (By Mr. Choy) Sure. So Dr. Sperry, this
10 is where I'm getting a little confused, and you have
11 or you are not able to cite to us any peer review
12 study that would support the proposition that
13 providing prompt fluids and oxygen would result in
14 reduced mortality?

15 A Okay. As far as specific studies that
16 reach that conclusion, no. I mean that gets back to
17 what I read to you. There are no, you know,
18 evidence-based studies that, that are able to
19 statistically arrive at that conclusion.

20 Q Okay. And so when you come to this
21 conclusion that we've read into the record, there is
22 not a single peer review study that you can cite to
23 us that would support your survivability opinion,
24 correct?

25 A Correct. You know, nor is there one, you

1 know, that says that's wrong either.

2 Q I hear that.

3 A Yep.

4 Q Okay. And so my original questions was
5 what facts are you relying upon for your
6 survivability opinion? And essentially you're
7 saying that that is just your opinion?

8 A Well --

9 MR. SPEARS: Objection to form. He has
10 answered your question.

11 THE WITNESS: No, it's not just my
12 opinion, it's the observational information
13 that, you know, the implementation -- excuse
14 me, it's getting long in the day --
15 implementation of this protocol has resulted
16 in, in reduced mortality for, and with no other
17 apparent reason for the deaths to have
18 decreased or actually not occurred.

19 So that's -- well, I think that's really
20 the information that is there. I mean there is
21 some -- well, some utility -- there is utility
22 in, in intervening in suspected ECAST
23 situations in this way, and when such
24 intervention has been undertaken, then people
25 are not dying. So, you know, and that's, you

1 know, to the extent of what I would say is
2 known as of me sitting here today, that's all I
3 can say.

4 Q (By Mr. Choy) Sure. Well, let's take
5 those instances where individuals who have suspected
6 ECAST are provided fluids and oxygen and then
7 fortunately turn out to survive that event. Let's
8 take those individuals.

9 A Unfortunately?

10 Q No, fortunately. That fortunately
11 survived.

12 A Okay.

13 Q In those cases there is no scientific data
14 to say what about giving them fluids and oxygen
15 resulted in death, it's just the hypothesis that the
16 fluids and oxygen increased their survivability,
17 correct?

18 A Well, I don't know about -- there's a
19 difference between observational information and --
20 I mean the -- and really where you're going is the
21 scientific method. I mean establishing a
22 hypothesis, testing of hypothesis and then getting
23 data. And unfortunately, in, you know, this
24 particular situation in dealing with ECAST patients,
25 there is -- the ability to do the double blind

1 control studies is essentially impossible and would
2 be ethically and morally bankrupt as well.

3 Q Sure.

4 A You can't, you can't gamble with people's
5 lives and see, and see what works best. And so, you
6 know, with that in mind we're still dealing -- the
7 overall problem is one that is real and exists and
8 it's understood that it exists and it's not
9 predictable. We have talked about that earlier.

10 And so the observations that utilization
11 of oxygen and fluid administration has reduced
12 mortality, is at least a place to start. Because
13 that, that basic concept, as I said, that's what
14 some of the other articles, they have endorsed this.
15 I mean they -- everyone agrees that this is, this is
16 the procedure, the process that needs to be
17 undertaken when dealing with a suspected ECAST
18 situation.

19 Q I understand that's the concept, and maybe
20 that's what this article was promoting and it will
21 speak for itself, but my point is, from a scientific
22 perspective, there is nothing to say that that, in
23 fact, would increase survivability more likely than
24 not?

25 MR. SPEARS: Object to the form.

1 THE WITNESS: Okay. From a perspective
2 of, of statistically proving the hypothesis,
3 no, there's not enough data on that. However,
4 you know, I would -- well, you know, I have no
5 way of knowing this, but -- well, in a sense,
6 in a way this particular case that we're
7 talking about with Mr. Wilson, circles around
8 or centers around the failure to give
9 interventional treatment and that, you know, I
10 think there's enough information -- well,
11 that's, that's where I am coming from is the
12 failure to do that is problematic, because
13 that -- the basic administration of oxygen and
14 fluids is appropriate for anyone who is having
15 an event, you know, like Mr. Wilson had, even
16 though the exact etiology is not known at that
17 time.

18 Q (By Mr. Choy) I agree with you. Let's
19 just say hypothetically I agree with you. Let's
20 just say, best practices would have been to give him
21 fluid and oxygen, at least based on this article.

22 My question to you is that one step
23 further, how do you know that providing that fluid
24 and oxygen would have resulted in Mr. Wilson
25 surviving this event?

1 A Well, you know, and we've -- the way that
2 that is known is because of the reduction in
3 mortality in the, the one population group that's
4 very large that also has been studied and monitored
5 and continues to be monitored. So that in of itself
6 shows that in an indirect way that such
7 interventions have a place and a purpose.

8 Q At the end of the day, you would agree
9 with me, it all depends on the individual who is
10 having the suspected ECAST on survivability, right?

11 A That's fair, because, you know, they're,
12 they're not at all same. I don't have a problem
13 with that.

14 Q And with respect to Mr. Wilson, we've
15 already established, or with respect to any person
16 having ECAST, it is literally scientifically
17 impossible to determine survivability because of all
18 the variables that we had discussed previously that
19 are unknowable, such as viscosity of the blood,
20 correct?

21 A Okay. Well, and that's, of course,
22 assuming that those variables really, you know,
23 play, play a role or not. I mean that's, you know,
24 one of the things that in a broad way was discussed
25 in this particular article. There were lots -- a

1 whole bunch of people sort of basically throwing out
2 everything that they could and, you know, there's a
3 lot of theoretical aspects that may really not have
4 any practical applicability at all. But yeah, they
5 help, you know, if they're studied, they may help
6 understand why this happens to start with.

7 Q So that's my very point. So if there is
8 no agreement within the scientific medical community
9 about the mechanism of this ECAST and, which results
10 in death in terms of these individual variables, how
11 is it that you can come in here and tell us that
12 providing prompt fluids and oxygen in this
13 particular case would have resulted in the
14 survivability of Mr. Wilson?

15 A Okay. The, the analog I would say would
16 be someone who is -- has ventricular fibrillation,
17 you don't have to know the etiology, the reason why
18 they're in ventricular fibrillation to administer a
19 cardiac shock.

20 You know, the source of it does not matter
21 so much as the entity itself and then giving, you
22 know, an intervention which will, you know,
23 hopefully revert them back to a normal cardiac
24 rhythm. Figuring out the why is a problem for later
25 on. And I view that in this -- this as sort of --

1 as somewhat the same way.

2 Q Well, even in your analog, which I don't
3 necessarily agree with, there's no -- you can't sit
4 here and say just because you then defibrillate
5 them, that they would survive?

6 A No, but the likelihood is still -- is, you
7 know, extremely high. I mean that's why
8 defibrillators exist and why there's AED machines.
9 I think you probably have one in this building
10 somewhere. You might even have one on this floor, I
11 don't know.

12 Q We do.

13 A Good. See, well, there you are. Because
14 there, there is a proven utility to them and it, you
15 know, it saves people's lives.

16 Q Oh, I get that piece.

17 A But the reasoning behind, you know, why,
18 say when someone collapses and, you know, is on the
19 floor, you know, you'll never make a mistake putting
20 the AED machine on them. And if says to shock, then
21 it shocks, and you, you know, you become a hero.

22 Q Well, I get that piece. I'm talking about
23 the actual mechanism of them surviving.

24 A Yes. Well, and that's --

25 Q That's my point.

1 A No, and I understand that, because there
2 have been our other variables too, I mean, for
3 instance, how long a person has been in ventricular
4 fibrillation.

5 Q Sure.

6 A You know, been in de-fib for four minutes,
7 then their brain is dead. So yes, there's -- oh,
8 there's definite --

9 Q Sure.

10 A -- it's not, it's not a hundred percent
11 and I think I have told you it's not.

12 Q And then the defibrillation example is
13 different than an ECAST situation because there are
14 lot more unknowables in terms of like we talked
15 about, that you've talked about, in terms of
16 viscosity of blood, are there any occlusions, are
17 there any infarctions throughout the body. We just
18 don't know with respect to Mr. Wilson, do we?

19 A Oh, no, there is not a way to know the
20 answer to all of those details, no.

21 Q And whether, in fact, if we even knew
22 those details, whether that would then somehow
23 relate to his survivability if he was given fluids
24 and oxygen, correct?

25 A Well, in that sense, yes, but at the time,

1 of course, when he was first evaluated, although he
2 was not verbally responsive, you know, he had a
3 pulse and, you know, at that point in time, you
4 know, certainly his heart was beating and the -- I
5 mean that's where, where it's at. Giving him oxygen
6 and fluids -- well, he's alive. And so knowing in
7 retrospect what he died from, then the
8 interventions, I think more probably than not would
9 have made a difference.

10 Q Your next sentence is, "It is also my
11 opinion to a reasonable degree of medical certainty,
12 that if Marquez Wilson had been transported to an
13 emergency room for the evaluation of his repeated
14 complaints of not being able to breathe, than more
15 probable than not he would have survived."

16 And just to distinguish that from your
17 previous opinion, are you saying that if the
18 paramedics and EMT had not given him fluids or
19 oxygen, instead made a decision to put him on a
20 stretcher and take him to ER, he would have
21 survived; is that what your opinion is?

22 A No, no, no.

23 Q Oh, okay. Are you saying that, in
24 addition to giving him fluids and oxygen, put him on
25 a stretcher and take him to the ER?

1 A Well, yes. Because at that point the
2 decision to give fluids and oxygen really predicates
3 them transporting him, yes.

4 Q I see. So --

5 A That's initial stabilization of, you know,
6 anyone, really.

7 Q So those are two combined, just one
8 opinion, and so you're saying what should have
9 happened is giving him fluids, oxygen, take him to
10 an ER, then it's more likely than not he would have
11 survived?

12 A Yes.

13 Q And the basis for that is what you've
14 already testified to?

15 A Yes, sir.

16 Q All right. And then the remainder of that
17 paragraph is more elaboration of your survivability
18 opinion, correct?

19 A Yes, sir.

20 Q Okay. Have we discussed all the bases for
21 your survivability opinion?

22 A I think so.

23 MR. CHOY: With that I will pass the
24 witness.

25 (Break was taken).

CROSS-EXAMINATION

BY MR. GRAY:

Q Let's go over some easy stuff first.
You're not a law enforcement officer and you've
never been a law enforcement officer, correct?

A Correct.

Q You don't have any -- you don't hold
yourself out as an expert on police practices, do
you?

A No.

Q You've never taken POST training or annual
training through POST with regard to law enforcement
issues; is that correct?

A Correct. I was a POST instructor, but
I've not taken any training, law enforcement
training.

Q But that had to do with medical issues,
I'm sure?

A Yes.

Q You've never been employed as a police
officer, right?

A Correct.

Q In terms of the opinions that you're going
to offer in this case, they seem to be contained in
the last full paragraph beginning on page 4 and

1 extending to page 5 of your report, correct?

2 A Yes.

3 Q Okay. And based on you -- what I heard
4 you testify about, Martez Wilson could have done
5 exactly what he did on the day of his death ten
6 times and not gone into ECAST, right?

7 A Oh, as far as physical activity, oh, yes.

8 Q There is no clinical studies or peer
9 review articles that could establish why on this day
10 he had ECAST, whereas if he had done the same thing
11 on another day he would not?

12 A You're correct.

13 Q Science just hadn't reached that
14 conclusion, right?

15 A Yes, I think that's a reasonable way to
16 look at it.

17 Q And while you believe that hydration and
18 oxygen would have saved his life, there is no
19 scientific peer review article which establishes
20 that to true, correct?

21 A That's correct.

22 Q You're just drawing the conclusion that
23 says if anybody is in distress and says they can't
24 breath, they're going to benefit from giving oxygen
25 and fluids?

1 A Yes, those are appropriate interventions
2 for anyone with those general complaints.

3 Q It's never going to hurt anyone?

4 A That's correct, it will never hurt anyone.

5 Q And the only article that you are relying
6 upon, that I can see, although you identified these
7 other articles, is the one that was identified as
8 Exhibit 6, the military article?

9 A Yes. That's the only one that establishes
10 the algorithm that we were talking about.

11 Q And the algorithm is the treatment that
12 they suggest you provide if someone is in ECAST,
13 right?

14 A Yes.

15 Q And, you know, we may quarrel about this
16 and the article speaks for itself, but I did not see
17 any conclusions that this would definitively prevent
18 someone's death.

19 A Correct, I'm not aware of conclusions
20 that, you know, to that degree of certitude.

21 Q And in fact, the conclusion in the report
22 says, "The summit and expert panel established
23 recommendations regarding exercise and SCD" -- which
24 I think is sickle cell trait.

25 A Sudden cardiac death.

1 Q Sudden cardiac?

2 A Yeah. That's okay. Or sickle cell
3 disease.

4 Q It says SCT.

5 A Oh, SCT, okay, that's sickle cell trait.
6 Okay. I'm sorry, I misheard you.

7 Q "The summit and expert panel established
8 recommendations regarding exercise and SCT, that can
9 be implemented to improve the health of all, not
10 just those with SCT."

11 And that's what we said before. Nobody is
12 going to get hurt by the fact that you give them
13 oxygen and water?

14 A Or IV fluids, correct.

15 Q "Further research is needed before
16 conclusions can be drawn regarding the etiology of
17 the increased death rate observed in WA" -- and I
18 think those are servicemen --

19 A Warfighters/athletes.

20 Q And athletes.

21 A It's military acronyms.

22 Q "With SCT and the possibility exist that
23 SCT is a surrogate for as yet another contributing
24 factor for the unexplained deaths."

25 What does that sentence mean to you?

1 A Okay. Well, they --

2 Q What do you think they mean by saying the
3 possibility exist that SCT is a surrogate for --

4 A Oh.

5 Q -- another contributing factor for the
6 unexplained?

7 A Oh, okay. Now, that -- there may be
8 something, some other physiologic aberration tied to
9 genetics which starts, starts the deleterious chain
10 of physiologic events from happening and -- or
11 starts, starts it occurring and the presence of the
12 sickle cell trait then enhances, exacerbates or
13 otherwise complicates this.

14 Q So you would agree that this study that
15 we're talking about, it makes recommendations but it
16 doesn't draw a conclusion that lives would be saved
17 in any percentage by the administration of hydration
18 and oxygen?

19 A Correct. Now, it does not make
20 conclusions and certainly can't give percentages.

21 Q And is there any quantification anywhere
22 as to how much liquid you would give somebody, how
23 much oxygen for how long, how long, how far along
24 they are in the ECAST syndrome?

25 A Not that, not that I'm aware of, not to

1 that degree. There may be, but I'm not aware of it.

2 Q You also, I think you said that while the
3 EMTs and paramedics you think should have considered
4 sickle cell crisis as a possibility, given the
5 circumstances, you don't fault them for not making
6 that diagnosis as such in the field, do you?

7 A Oh, no, no.

8 Q And you certainly wouldn't extrapolate and
9 say that the officers should have made that
10 diagnosis, do you?

11 A Oh, no, I would not.

12 Q And do you know what Douglasville officers
13 carry with them or have available to them in their
14 vehicles, in terms of providing oxygen saturation or
15 hydration?

16 A Oh, no, I don't know.

17 Q Those are medical issues?

18 A Yeah, those are medical issues.

19 Q And you wouldn't fault police officers for
20 relying upon trained paramedics and EMTs to evaluate
21 a patient like Mr. Wilson and give guidance to the
22 officers, would you?

23 A Oh, no, in fact I would expect it.

24 Q And did you note in reviewing the
25 materials, that the time interval between the moment

1 that any Douglasville officer encountered Mr. Wilson
2 and the time when they called EMTs for assistance,
3 was maybe a couple of seconds over five minutes?

4 A Yes, about four minutes, I did see that.

5 Q And that's what you would hope they would
6 do, right?

7 A That's completely appropriate.

8 Q Okay. Tell me what the discrepancy was
9 between the information about oxygen sats that you
10 referred to? I think I know this, but it wasn't
11 delineated with any specificity. This is on the
12 second full paragraph on page 4.

13 A Yes. Well, it was really more of the, the
14 pulse.

15 Q Okay.

16 A Yeah, the oxygen saturations, I mean --
17 yeah -- excuse me -- because the saturation, you
18 know, Porterfield is giving it in the range of high
19 90s with 98 percent being the average, and then
20 Officer Smith says that "They stated to me that his
21 pulse was 110 and his oxygen level was 96 at that
22 point."

23 So I don't see the oxygen saturations, you
24 know, it's a bit of apples and oranges, if you will.

25 Q So you're saying that Officer Smith's

1 recollection was that this is what the paramedics
2 told me his oxygen sats were at --

3 A At whatever point.

4 Q At some point in time?

5 A Yes, but the, you know, the discrepancy
6 really is the, you know, the pulse rate that
7 Porterfield says that the pulse was in the mid to
8 high 50s, average pulse rate of 57. And Officer
9 Smith says, "They stated to me that his pulse was
10 110."

11 Q Would you characterize Mr. Wilson's
12 situation as an emergency situation? When he
13 reports he's difficulty breathing? From that point
14 on we're dealing with an emergency situation?

15 A I would, especially with his repeated
16 complaint that I, you know, I can't breath, I can't
17 breath. You know, yes, I would consider that to be
18 an emergency situation.

19 Q There was some discussion of the cardiac
20 monitoring and an AED?

21 A Yes.

22 Q Do you know whether any Douglasville
23 officers carry that type of equipment in their
24 vehicles?

25 A I do not.

1 Q Would you suspect they would?

2 A Some do, some don't, but, you know, I
3 don't know what their departmental policy and
4 procedure is. You know, they're expensive units
5 and, you know, again, some departments may, others
6 won't, but I can't fault them either way. But
7 again, calling for paramedic assistance, they
8 certainly have the AED on their truck.

9 Q And you don't fault them following the
10 advice of the EMTs who cleared him for transport, do
11 you?

12 A No, no. I mean that was, in my view, that
13 was why they called the EMTs.

14 MR. GRAY: That's it for me.

15 THE WITNESS: Short, sweet and hard to
16 beat.

17 CROSS-EXAMINATION

18 BY MR. DEMPSEY:

19 Q Sir, I'm Brian Dempsey, we met before. I
20 represent Ryan Cadwell.

21 On page 4 of your report you mentioned in
22 the first full paragraph that the officers assumed
23 that Martez Wilson -- it says Marquez --

24 A That's what happens. Since I typed it
25 myself, I will take blame for those.

1 Q Anyhow, the officers assumed that when
2 Martez Wilson was, quote, noncompliant, he was
3 unable to get up on his own.

4 Do you see where you wrote that?

5 A Okay, yes.

6 Q What is the basis for your statement that
7 Mr. Wilson was unable to get up on his own?

8 A Well, as I recall, I believe they asked
9 him to get up and, you know, and he didn't. And
10 then my interpretation was, at least from the
11 discourse, that he was not, as Mr. Wilson was not
12 helping them in getting up. The officers had to
13 lift him up and carry him.

14 Q So we have the fact that he did not
15 actually comply with the officer's request, correct?

16 A Yes.

17 Q Do you have anything else?

18 A No. I mean he was not answering their
19 questions and, you know, I don't know that I can
20 give a definition, a law enforcement definition of
21 noncompliance. I think some of that is, you know
22 the eye of the beholder and, you know, they're the
23 ones who are assessing and evaluating him and trying
24 to get him in the vehicle.

25 So how they define noncompliance, you

1 know, could be a wide range of things. But not
2 doing -- not following through on their request and
3 questions, you know, in the broad sense, at least I
4 view that as noncompliance. But then again, I'm not
5 a cop.

6 Q Right. So you're not taking issue with
7 the officers' characterization of Mr. Wilson as
8 noncompliant?

9 A Oh, no, I'm not taking issue with that,
10 no, I think it's their interpretation of the
11 situation and his behavior.

12 Q And would you agree that it's typical in
13 an ECAST incidents for observers, whether they be
14 sports coaches or drill instructors or law
15 enforcement officers, to interpret what they see as
16 an individual feigning an illness?

17 MR. SPEARS: Objection to form.

18 THE WITNESS: Okay --

19 MR. SPEARS: You're asking his opinion of
20 those third parties assessments of some
21 generalized noncompliance that they don't know
22 what it is?

23 THE WITNESS: I'm not sure I understood
24 exactly what you asked me.

25 Q (By Mr. Dempsey) Right. And I think just

1 to give you a footing here, I'm referring back to
2 the incident about the Marine that you were citing.

3 A Yes.

4 Q And what was your involvement in reviewing
5 that?

6 A Oh, really establishing the cause of
7 death, and, you know, despite the fact the military
8 pathologists had established the sickle cell trait
9 as the, you know, the complications that are of
10 ECAST basically. This was before the term ECAST was
11 coined. But establishing that as the cause of
12 death.

13 Q And other than that, you've looked at
14 literature to determine the typical course of events
15 in an ECAST incident, correct?

16 A Well, yes, and then ones that I have seen
17 myself too.

18 Q Okay. Would you agree that it's not
19 unusual for observers to interpret an individual in
20 an ECAST event as feigning illness?

21 A Oh, okay. I think I understand what
22 you're asking. And that has been -- that general
23 approach has been recognized as one of the problems
24 with missing individuals who have ECAST. It's that
25 their behavior, their sign, symptoms, however

1 they're manifesting, you know, whatever is being is
2 shown to observe -- whatever is happening to them
3 that observers are viewing is misinterpreted as
4 being something that it is not. And that's been one
5 emphasis, definitely in the military, and in
6 athletics as well is that these, these must be taken
7 seriously and not interpreted as well, it's just
8 only feigning or he's playing possum or he doesn't
9 want to do what he is supposed to do. You see what
10 I'm saying?

11 Q Yes.

12 A That the, the error, if there is one,
13 should always be made on the side of assuming the
14 worst and addressing that rather than concluding
15 that it's -- whatever is happening to the person is
16 of minor consequence.

17 Q In the military, those developments in
18 improved policies have only taken root in the last
19 seven years or so; is that right?

20 A Yeah, something like that. That's when
21 the real emphasis has, has, you know, come forth, I
22 mean once, you know, large amounts of -- well,
23 fatalities have really been reviewed to a great, to
24 a great extent, and the phenomenon that's defined as
25 ECAST is at least known and recognized as an entity

1 that is, you know, strongly associated with sickle
2 cell trait.

3 So with all of those things that I think
4 at least clarify the problem, then the perspective
5 of, of treating patients like this or individuals
6 like this as potentially having ECAST or something
7 else of a serious nature, is the proper course of
8 action. So because, like I said, you will err on
9 the side of, of taking it seriously, and if turns
10 out, you know, that somebody is malingering, well, I
11 mean that would come out in the wash, you know, but
12 you won't, you won't inadvertently or, you know,
13 through poor decisions miss someone who really is
14 getting very ill in front of you.

15 Q Right. Have developments in the athletic
16 side of this also been fairly recent, say within the
17 last seven years or so?

18 A Yes, there's -- the focus, the emphasis is
19 lot different, and there actually is more of a
20 mandated alliance on doing -- of screening
21 participants for sickle cell trait.

22 Because it's, you know, in the military
23 when you sign your name they own you, you know, but,
24 you know, participation in sports through the
25 professional level is something that's voluntarily

1 and then as a consequence there's, you know, the
2 agencies or the entities that oversee athletes have,
3 you know, have, have a responsibility to, you know,
4 to make sure that someone is potentially not at
5 risk.

6 You know, for instance, I mean at present
7 -- there are certain sports, certain places that
8 sickle cell trait is an exclusion for participating
9 in sports, you know. Those are administrative
10 decisions but those are the reasons behind it.

11 Q Is it fair to say that any other fields
12 other than military and athletics management would
13 be following in the area of protocols for ECAST
14 events?

15 A Yeah, that's fair, yes.

16 MR. DEMPSEY: I'm done.

17 (Dr. Sperry takes phone call.)

18 RECROSS-EXAMINATION

19 BY MR. GRAY:

20 Q I just have two little questions.

21 A Certainly.

22 Q You produced to us courtroom and
23 deposition testimony?

24 A Yes.

25 Q A list of your cases from 2014 forward.

1 And I know Sun asked you do you remember any cases
2 you've been involved with sickle cell and you told
3 us about one a decade ago.

4 Just want to confirm that none of these
5 cases on this list involve sickle cell issues?

6 A That's correct.

7 Q The other question I had is, you said you
8 can't the moment or time of Mr. Wilson's death, can
9 you?

10 A No, I cannot.

11 Q And your statement earlier that you
12 believe he must have deceased somewhere after he was
13 taken towards the jail and when he got to the jail;
14 is that fair?

15 A Yes.

16 Q And do you base that on the reports of the
17 paramedic that he got an oxygen sat while he was
18 still in the car before they left?

19 A Yes, yes.

20 Q Otherwise, he could have been deceased
21 when he was in the car when the EMTs arrived, right?

22 A Yes, if he was deceased then, he also
23 probably --

24 Q He would not have an oxygen sat?

25 A Nor a pulse.

1 Q Nor a pulse.

2 MR. GRAY: Okay. Thank you very much.
3 We're done.

4 MR. SPEARS: That's it.

5 (DEPOSITION CONCLUDED.)
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C E R T I F I C A T E

G E O R G I A :

FULTON COUNTY:

I hereby certify that the foregoing transcript was taken down, as stated in the caption, and the questions and answers thereto were reduced to typewriting under my direction; that the foregoing pages 1 through 198 represent a true, complete and correct transcript of the evidence given upon said hearing; am in compliance with O.C.G.A. Section 9-11-28(d) and Section 15-14-37(a) and (b); and I further certify that I am not of kin or counsel to the parties in the case; not in the regular employ of counsel for any of said parties; nor am I in anywise interested in the result of said case.

This the 22nd day of March, 2018.

DEBRA J. PUCKETT, CCR, B-1188